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ABSTRACT

The approaches being taken and innovations being adopted at the national and European levels to anticipate occupation and qualification trends in the European Union (EU) were examined in a survey of the 15 EU member states. The survey findings were presented by country and in a synthesis. In addition, the findings for Belgium were broken down by the Dutch- and French-speaking portions of the country. The following were among the key findings: (1) the organization of research to anticipate qualification trends in individual EU member states varies considerably, ranging from highly developed and structured systems in Germany and Denmark to informal and loosely coordinated activities in Sweden and the United Kingdom; (2) throughout Europe, changes in the economic, social, and regional or sector environment have led to accelerated review of vocational education and training provision over the past decade; (3) many reviews stem from European Social Fund interventions and European programs in the 1990s; (4) the general trend has been away from large-scale, independent, nationwide qualification analyses and toward regional, local, or even enterprise-level analyses; and (5) although many EU members states have taken increasingly sophisticated approaches to research into competency/qualifications forecasting, the overall state of the anticipation discipline throughout Europe remains underdeveloped. (Contains 17 references.) (MN)

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CEDEFOP, Burkart Sellin (ed.)

Anticipation of Occupation and Qualification Trends in the European Union

Innovations for effective anticipation of qualification and competence trends and the adaptation of VET provision in Member States

Thessaloniki, May 2000

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Preface

Cedefop launched this survey at the request of the European Commission in 1999 in order to contribute to the validation of the outcomes of the Leonardo da Vinci programme I in terms of methods, tools and instruments for anticipating qualifications and competence developments and adapting vocational education and training systems, which was one of the main priorities of this programme. A whole range of pilot projects, studies and analyses within LdV I tackled this matter, which was – and probably still is - regarded as being of great interest to policy-makers and practitioners at a time of a paradigm shift from the industrial society to the services, information and/or knowledge society.

Whereas the LdV projects deliver more detailed insights into situations at sector level or for certain groups of occupations/professions or regions, this survey seeks to give an overview of the approaches taken and innovations adopted at the national level and to compare approaches at the European level. It is thus expected that the outcome complements the studies, analyses and projects of LdV I and contributes to their validation and evaluation. During a Cedefop conference in June 2000, together with Commission, Member State and Social Partner representatives, we will submit the outcomes and tentative conclusions or recommendations for further action. These will be published later and are not included in this report. It may well be that a recommendation could arise from this work while taking into account the outcomes of the validation and evaluation of individual LdV projects on this issue, which could be steered through the European level social dialogue and/or Advisory Committee on VET to the Commission, Council and the European Parliament for a final decision. From the country reports it became evident that the Social Partners and their organisations are increasingly playing a crucial role in all Member States, a special recommendation on their present and future involvement in anticipating trends in qualification and competence developments may be falling on fertile ground together to the wider recommendation mentioned above. This issue will be discussed with Social Partners' representatives directly, assuming they are interested in the matter.

The work was launched at the technical level in close collaboration with Cedefop's network on research cooperation on trends in the development of occupations and qualifications[1]. In Cedefop's recent publication on these trends the reader will find additional information which is highly relevant to the topic treated in this report. The call for expressions of interest was steered mainly through this network; some of its members took part as authors of country reports. Finally, this work was also launched in close collaboration with Cedefop's project on *observing innovations* where this topic was chosen for a more indepth survey in order to assist Cedefop to develop methods and instruments for observing innovations in the Member States' VET provision on a more regular basis.

Coping with change and in the light of the necessary adaptation of education and training systems and sub-systems anticipating instruments must increasingly be an inbuilt element of the overall socio-economic provision. The role of institutions, employer and union organisations, State bodies at national, federal, sectoral and regional levels is increasingly being threatened by the accelerated pace of innovation and renewal within the work organisation of industrial production and services. Are these institutions still adequately prepared to control and steer these developments in future? What means and instruments do they need if they are to continue to maintain a certain level of control? Is the European research arena prepared to underpin the social and economic dialogue and to advise policy-makers in this crucial field at both the national and the European level? Occupations and qualifications are social constructs; their identification and further development are closely linked to the context in which they are created or in which they become obsolete. Market forces alone cannot decide about medium- and long-term policies for and investment in education and training. Human beings, as opposed to products or services, are not readily available everywhere in the world; *human capital* or *human resources* are rather immobile, which is why they feel rather threatened by globalisation and internationalisation. However, they must cope with these trends.

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[1] See the recent Cedefop publication (1999/2000) in two volumes on 'European Trends in the Development of Occupations and Qualifications' edited by Burkart Sellin

The qualification and competence of human resources is the focus of new trends linked to the information and knowledge society. However, they not only need to adapt to and cope with these new trends but they must also master and steer the immense potential of new information and communication technologies, their development towards improved social, economic, ecological and even cultural sustainability, which should allow social and economic objectives to be combined effectively and policies to be implemented in such a way as to avoid conflicts, new forms of marginalisation or polarisation between qualifications and/or *haves* and *have-nots* in terms of relevant qualifications, skills and competences[2].

VET provision must be made more transparent for its target groups: participants, teachers and learners, parents and guidance or information professionals. Especially in times of change a clear direction must be given, which should be flexible and stable as well as dynamic and consistent. We will have to learn to live with this complexity and contradiction for some time; however, if individual human beings are asked to adapt to change, then institutions must change first in order to permit people to adapt and to become more flexible. The change in attitudes and aptitudes will not come about in a matter of years but in a matter of generations. New approaches to anticipating changing qualification, skill and competence needs may substantially reinforce this need for change in the face of present and foreseeable challenges.

Cedefop would like to thank the authors and their research institutes for their efficient cooperation and high quality contributions. The matter can be taken further thanks to their efforts. This example shows once again how well advanced the European research community is in the area of labour market and VET research. However, it also pinpoints where there are major deficits in implementing and drawing conclusions from their findings with a view to establishing efficient and up-to-date tools and instruments for research and policy-making at the interface between the labour market and vocational education and training so as to ensure better transparency and coherence of provision in both initial and continuing education and training.

Johan van Rens and Stavros Stavrou, CEDEFOP, Thessaloniki, June 2000

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[2] See the conclusions of the Lisbon summit of March 2000 and the EU's employment strategy

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I. Preliminary synthesis

General appreciation

The manner in which research on the anticipation of qualification trends is organised in EU member states varies considerably. Highly developed and structured systems operate in **Germany** and **Denmark**, primarily because of regulation (the former) or because of an institutionalised participation of the social partners in vocational education and training activities (the latter). At the other end of the spectrum, even developed economies such as **Sweden** and the **United Kingdom** may have only informal and loosely co-ordinated activities covering the field, although there will be variations from sector to sector or between occupational/professional fields.

All the national reports presented to CEDEFOP on *Methods, tools and instruments for anticipating qualification and competence developments and adapting VET systems* refer to the complexity of the subject. Research may be carried out from a national, regional, sectoral or even company-level perspective. National reports have had to take into account the accelerated change in the nature of the labour market and in the way that enterprises and work itself are organised. Some countries have special systems for anticipation which distinguish between different levels of skill and education/training, some have a stronger institutional bias. Sometimes two or three systems and institutional instruments are co-existing.

Throughout Europe, changes in the economic, social and regional or sector environment have led to an accelerated review of VET provisions over the past decade. In nearly all member states there has been an increased regionalisation and/or decentralisation of training policy-making and of related observing/forecasting activities, reflected in the establishment of bodies such as the regional training observatories operating in **France**, **Denmark** and the **Netherlands**; the importance of sectoral forecasting activity has increased in parallel to the regional or even local level activity. Other countries established central research and forecasting agencies on central government level, e.g. **Spain**, **Belgium** (Flemish part), the **UK** and **Portugal**.

Efforts linked to European Social Fund interventions and European programmes in the 1990s

Activities in the field of skill and qualification trends' observation and forecasting were in the 90's facilitated by *European Social Fund* and by EU-programmes in many Member States and regions. The Community initiative Adapt supported studies and efforts to improve tools and instruments for anticipating change in certain (declining) industrial sectors. Within the Leonardo da Vinci Programme the problem of anticipation was one of the priority issue for both pilot projects and studies[3]. This raised the awareness for the problem of anticipation. Exemples were the coal and steel industries, textiles and clothing industries and certain regions where traditional industries prevailed. As forward-looking regional employment and training policies was promoted and intended and a multiplicity of anticipation methods have become available. One result was, however, that decision-makers were rather spoiled for choice: it may be hard for them to identify the most suitable methods and to verify the multiple approaches taken and contradictory outcomes produced.

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[3] See CEDEFOP (Burkart Sellin), ed.(2000*): European Trends in the development of occupations and qualifications*, volume II, Brussels/Luxemburg and more especially the contributions of Ant,Marc and Jeff Kintzele on pp. 277 and Sellin, B. on pp. 303

The influence of legislation

Several national reports refer to the (expected) significant influence of recent (or forthcoming) legislation. Typically, in the **Netherlands** a new Education Act, implemented in 1996, re-directed policies and gave priority to "finding an optimal match with developments in the labour market .." New roles for the state, the education sector and trade and industry were created with the setting up of 21 National Boards for Vocational Education (LOBs). The new legislation encouraged the concentration of vocational courses within autonomous bodies known as Regional Vocational Training Colleges (ROCs) to help satisfy the needs of regional trade and industry (see also next paragraph).

Regionalisation and decentralisation

"In recent years there has been a general trend away from large-scale, independent, nation-wide qualification analyses and towards regional, local or even enterprise-level analyses of qualification needs. This shift could also be observed in the relevant institutions, as a multitude of small, non-profit and private research establishments mushroomed beside the large, established institutions." This extract from the **Austrian** national report describes a trend which has been pan-European.

For example, the report for French-speaking **Belgium** notes the "marked tendency to regionalise vocational training policy". In Belgium, the responsibility for vocational training was devolved in 1994 to the Regions (Brussels and Wallonia). More inter-regional cooperation has also been recommended for the Flemish region of Belgium.

In **Germany**, the 1969 training Act gave the task of researching occupational change at national, sector and regional level to the Federal Institute for Vocational Training and the Institute for Labour Market and Occupational Research. However, numerous regional, sector and local research activities based at universities or undertaken by private non-profit organisations developed in the mean-time.

Another notable regionalisation occurred in **Denmark** where Regional Labour Market Councils were established in 1976. The Danish Technological Institute (DTI) prepares quarterly forecasts of labour market developments for use by the RLMCs for their more localised anticipation research efforts. The RLMCs operate in each of the Denmark's 14 counties in close cooperation with the public employment services.

In **The Netherlands** this trend is also strongly developed in recent years via the Regional Colleges (see above).

Main methodological trends

Several national reports describe the increasingly sophisticated approaches to research into competency/qualifications forecasting. The **Danish**, **French** and **Finnish** reports describe a shift from traditional, quantitative "labour force survey" methods of forecasting ("demand-side" analyses) to a more qualitative form of research concerned with trends, such as scenario-type studies designed to allow more rapid responses to labour market changes.

A number of historical problems within national labour markets are referred to as having triggered these changes in the way VET policy and research has been organised. For example, in **France** rising unemployment and new approaches to personnel management and work organisation led to a "change of approach" and the replacement of "1960s analyses of supply and demand" by "flow and system studies". Similarly in **Germany** a "training crisis, which began in the early 1990s" is referred to which triggered an acceleration of the updating of regulated occupational profiles (Ausbildungsberufe).

Main players

In the Member States with more structured and co-ordinated systems for labour market research and anticipation activities, a combination of government ministries/agencies, academic research bodies and dedicated tripartite/bipartite, social partner or purely employer-led entities, as well as established education and vocational training institutions, are involved in anticipation and adaptation activities in various ways.

In **Germany**, the (tripartite) Federal VET-Institute (BIBB) and the Institute for Labour Market and Occupational Research (IAB) of the (tripartite) Federal Institute for Employment, as well as several regional or sector bodies, are in various degrees involved in the field (see above)i.

In **France** various bodies have been given specific responsibility for forecasting/anticipation research so as to allow rapid responses to changes in labour market conditions and skill requirements. Different groupings are involved in i) macro-economic forecasts (Bureau International de Prospectives Economiques), ii) "forecasting contracts" (contrats détudes prospectives, CEPs) and iii) regional (COPIREs and OREFs) and sectoral (CPNEs) observatories.

In contrast to the above, in the French-speaking regions of **Belgium** (Brussels and Wallonia) vocational training and forecasting activity is almost exclusively initiated (and funded) by employers. While steps have been taken to establish appropriate bodies and methods, a recent University of Louvain study stressed that, at present, "French-speaking Belgium has too few institutional resources to anticipate employment and qualifications or to analyse training needs". A similar picture emerges from several other national reports.

Central co-ordination or not?

There is a contrast between countries with centrally organised systems for qualifications trends forecasting (**Germany**, **France** and **Spain**) and those where, although the activity is developed, it is not centrally co-ordinated (**UK**, **Denmark** and **Sweden**). Although it is stated that "The absence of any nationally-coordinated monitoring system means that the situation in **Denmark** is not up to date in an international sense", the fact that the Danish report provides numerous examples of *anticipation* research being successfully implemented suggests that central co-ordination is not necessarily a prerequisite for success.

The **Italian report** is typical in reporting that " the need to arrive at an integrated needs analysis system on a national and local basis as a key instrument for the support of training policies [has been forcefully demonstrated]."

In **Denmark's** decentralised system the Labour Ministry does carry out traditional-style labour market forecasts on a quarterly basis while the Ministry of Business and Industry applies more contemporary, *supply-side* tools such as *resource area analyses* (these consider, separately, eight sectors of the national economy and involve compilation of information from statistics, interviews, literature and case studies). A recent innovation was the creation of a *Welfare Commission* which reported in 1995 on the implications for the Danish labour market and industry of globalisation.

Key instruments and institutions

The underdeveloped state of the anticipation discipline throughout Europe is reflected in the fact that few national reports (NRs) provide detailed discussion of particular analytical instruments. Most NRs concentrate instead on how institutions or social partners are involved.

The **Danish**, **French** and **Finnish** reports are notable for considering analytical instruments in some detail. Even then, the distinction between *instruments* and institutional arrangements for anticipation research is not clear-cut.

Typically, the useful summary table in the *Perker* report contains in its first column (headed *Type of tool or method*) a list of bodies and institutions: macroeconomic forecasts; forecasting contracts (CEPs); regional employment-training observatories (OREFs); sectoral observatories; enterprise observatories; Occupational Advisory Commissions (CPCs); and Joint National Employment Commissions (CPNEs).

More specific references to particular methods/tools are given in the table of *Poropudas and Stenvall* where five methods are highlighted as "established systematic anticipation models" (ie The Mitenna project, the PTM model, the Vaasa Model, the "training demand barometer" of the Satakunta region, and the "skills requirements sounder")

The **Austrian report** considers anticipation methods in the context of the four different parts of the Austrian VET system: the state-regulated vocational training school system (for which a core curriculum is prescribed); the unregulated area of continuing vocational training; institutes of education (a recent, post-1994 innovation) and regulated apprenticeships (supervised by the Federal VET Advisory Committee). The report notes, in particular, the qualification needs analyses (QNA) prepared by the Labour Market Service and government ministries. Qualitiative and quantitative techniques (and hybrid methods) are used in Austria but scenario-type studies are not established.

Longer-term forecasting research is carried out by organisations such as the **Danish Technological Institute** which has had particular success in applying the method known as Industrial Sociological Qualification Analysis. This method has been used in several sectors such as cleaning, plastics industry, electronic industry, transport, clothing industry, furniture industry and computer-controlled machines in the metal industry. A study initiated in the plastics industry, "aimed at helping a mainly female, unskilled and untrained group to participate in job development", showed that "co-ordinated efforts with course participation and job development do pay off for enterprises as well as for the individual employees".

Numerous anticipation methods and instruments are described in the **Danish report** ranging from traditional "demand-side" resource area analyses, scenario methods and the so-called Hjemmeservice, begun in 1994, which focuses on the low-skilled (see descriptions of SWOT, IDA, ADAM and SMEC in the full report). Nevertheless, the Danish system is characterised by the well-developed social dialogue on labour market issues and vocational education and training: "Especially on the qualitative part regarding shifts in vocational qualifications, this tight relationship and easy access to enterprises, including spearhead enterprises 'showing the future for the others' is probably the reason why there is no need for nationally recognized and regularly-used forecasting instruments".

Despite the extensive description of particular methods, tools and instruments for anticipation in the **Danish report**, the practical importance for forecasting of direct dialogue between VET/CVT committees and employers is stressed: "Many of the anticipation policies in the CVT field developed out of direct dialogue with enterprises, rather than in the use of sophisticated analyses."

Contradictions and shortcomings

Several national reports refer to the difficult, complex and undeveloped nature of anticipation techniques and, even more so, of methods for adaptation of VET systems.

Many recent positive developments are described and new institutions mentioned; a wide range of tools are being used and some limited examples of transfer of research results into adaptation of VET systems are presented.

But several reports draw attention to the limitations of the methods currently in use. "It is difficult to solve the problem of adapting qualifications and skills to enterprises' needs despite increasingly sophisticated methods" (**French report**).

The **Austrian report** notes that the conclusions (of anticipation studies) are rarely up-to-date and the forecasts that are made are "only short-term, lack clarity in their objectives and suffer from terminological weaknesses". Indeed, Markowitsch questions whether any meaningful forecasting activity is currently taking place, ie whether QNAs as currently performed in Austria make any substantial contribution to the planning of VET systems. Echoing the conclusions of other national reports, Markowitsch concludes that, "a less analytical, more pragmatic ..." approach to this area of research is recommended.

The **Swedish report** also refers to the limitations of the discipline and the contradictory conclusions that may arise and the fact that recent trends in the use of tools/instruments for adapting VET in a wide sense have been rather contradictory.

On the one hand, the Swedish report says, it is official policy that basic vocational training - i.e. upper secondary school and third degree education - should be based on students' personal preferences rather than anticipated demand and possible shifts in demand from the labour market. Consequently, the development of new methods for anticipating such future demand has not been pursued. Another factor has been the fact that earlier anticipation efforts suffered from severe shortcomings.

On the other hand, some actors on the "educational market" in Sweden have been more active in analysing the interface between labour market and VET developments. This applies particularly for the Labour Market Board, which developed tools for anticipating trends and presented long- and medium-term assessments of future vocational training needs.

Impact of qualification research and investigations

Many positive developments are described in the national reports: new institutions established, a wide range of new tools being used and some positive examples of transfer of research results into adaptation of VET systems. But several reports (**France**, **Sweden**, **Finland** and **Wallonia**) underline the limitations of current methods.

Although research methods have become more sophisticated, it is generally acknowledged that not only is the discipline still at an early stage of development (and could be more accurately described as *descriptive of developments* rather than *anticipatory of trends*) but also that anticipation studies are not a panacea.

The **French report**, for example, states: "Forecasting is only one aspect of strategic planning; it makes it possible to gather information and synthesise, but it does not provide a clear-cut response to the problem of matching training and jobs..."

The report by *Henriette Perker* continues, "Needs in terms of skills are not the same as training needs. Indeed, training is not the only way of meeting enterprises' needs and the purpose of training is not merely to respond to those needs. And defining a vocational-training policy is not simply a question of gathering information and conducting studies. A compromise has to be made between what is attainable and what families may wish for their children, the hopes and expectations of job-seekers."

Similarly, in the **Swedish report** a frank acknowledgement of the limited outcome of anticipation efforts is given as one reason for the decline in interest in this area of research; another reason being that "social engineering is out of favour".

Similarly, **Italian needs analysis surveys** have " made little impact on training policies. The reasons for this failure to influence the renewal of the training system lay in the lack of initial coordination between those conducting the surveys and those who might have used their findings, and in the multiple objectives of those surveys, which were used both for statistical purposes and for the guidance and reform of the training system. This meant that their findings were too generic to be used by the political decision-makers."

Whether these statements reflect the still-underdeveloped state of anticipation techniques or the limited scope for policy-making and intervention in times of increased deregulation and flexibilisation remains a subject for debate.

Final remark

The above highlights of the 16 national reports do not detract from the original assumption of this project: there is a need to adapt and improve the methods and tools used for analysis and investigation of vocational training requirements at all levels (local, regional, sectoral, national and European).

Occupational and training profiles are changing ever faster, but teachers and trainers, parents, schoolchildren, trainees and students, careers advisers and employment offices need relatively stable indications of and reference standards for definite trends, and descriptions of occupational and training profiles derived from these.

Research tools and mechanisms must keep up with changes in training curricula and content. They should provide an early warning system that provides signals for education specialists and supports them in their daily decisions about what and why they are teaching. This consoldiated and edited report on developments in the Member State is an attempt to further that aim.

II. National reports[4]

The reports were commissioned by CEDEFOP in 1999 and established by the authors in general in their respective language. The full reports (in these languages or in English) could be made available on demand. They were translated into English and then language edited and shortened[5], finally they were submitted again to the authors for verification. Because of their richness in terms of details and recommendations for improvement of methods and tools or instruments they are reproduced in this shortened and consolidated version. For a better understanding of the sometimes quite special terminology used we refer the reader to the glossarium in CEDEFOP's homepage www.cedefop.eu.int

1. Belgium (Dutch speaking)

Leen Vanaerschot and Rien Van Meensel

This article describes two significant projects run in the Flemish community of Belgium in the field of occupational profiles and labour market research: the *occupational profiles* project of Flanders' Social and Economic Council (SEC), and the *strategic labour market research programme* (SLRM-programme) of the Minister for Employment of the Flemish Community. The SEC project on occupational profiles (the "OP-project") attempts to co-ordinate the fragmented field of qualifications trends anticipation through the production of occupational profiles which can be implemented in the initial educational system. Providers of vocational training use these occupational profiles to adjust the contents of their curricula and courses. The Ministry of Employment's SLRM programme is more broadly aimed at identifying projects from the field of labour market research which have an immediate relevance for VET policy makers: to highlight, for example, particular characteristics of the labour market and to assess the impact of particular measures of relevance for VET policy.

The occupational profiles project (OP-project)

The Flanders' Social and Economic Council (SEC), the consultative body of the Flemish social partners, has two main functions: to advise the Flemish government on economic and social matters and to organise consultation between the Flemish inter-professional social partners (bilateral consultation) and with the Flemish government (trilateral consultation). More recently acquired functions are to organise sectoral consultation (through sectoral committees) and to study specific issues, such as the impact of new technologies and equal opportunities for women workers.

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[4] This publication is a consolidation and edited version of 16 national reports which were prepared on behalf of CEDEFOP in 1999 under the thematic title, "*Methods, tools and instruments for anticipating qualification and competence developments and the adaptation of VET-systems*". The original reports are available on demand from CEDEFOP (either in the original language or in an English translation). Contact: info@cedefop.eu.int or fax: 0030 31 490117.

[5] This work was done by John Manos, Grecofile/Athens on behalf of CEDEFOP

The Council is composed of 10 delegates of the representative employers' organisations and 10 delegates of the representative trade unions. The occupational profiles project is one of a number of new responsibilities taken on by the Council.

The OP-project began in 1997 but its origin dates back to 1993 when a conference was held on vocational education, after which the participating parties (education/training officials and social partners) committed themselves to a number of actions to improve and organise the process by which information on qualifications and competencies was to be gathered and exploited more systematically. The Flemish Educational Council (FEC) was established, giving a new impulse to the discussion between representatives of the educational system and the social partners on themes like the qualitative and quantitative adaptation of the educational system to the skill and competence needs of the labour market.

It was decided to begin a small-scale project with the objective of developing occupational profiles for different occupations in a variety of industries and services. These profiles had to be useful for different user groups such as schools, teachers, training instructors, personnel managers, educational counsellors, and for different purposes such as adapting educational and training curricula, counselling, selection, screening, planning of training, etc.

One methodology adopted to develop these occupational profiles was the "conference method", which promised greater accuracy, speed and flexibility than the usual CEF working procedures which involved preparatory working committees and final decision by the Council. The SEC also opted for uniformity in the content and presentation of the occupational profiles so as to give the end-product a high degree of recognisability and standardisation.

Specific working procedures followed so as to guarantee that the profiles are legitimate, i.e. carry the approval of the social partners, and are valid, i.e. can be used by different users for different purposes. The procedure consists of several steps: occupational experts are interviewed, a conference of representatives of the sector/subsectors discusses the draft document and a final conference with representatives of educational and training institutes is held to validate the results.

The resulting occupational profiles, thus *validated*, provide the basis for a reliable occupational reference or standard. The project has produced between 14 to 15 reports per year. The reports are in three parts: an overview of the most relevant economic and social information, a description of the occupation or occupational cluster and the actual profile which consists of clusters of related activitities. These activities are divided up into the tasks of which they consist. Each task is related to the competencies required to perform them. (The report also contains information on working conditions, safety procedures, hygiene, qualifications and future trends in work organisation, products, procedures, machines, etc.)

To achieve proper implementation of the OP project, the SEC has made strict agreements with the three most important providers of education and training on responsibilities and implementation of the research results. These agreements specify the responsibilities of the social partners and the education and training providers.

Occupational structures and occupational profiles are to be developed by the social partners, the education and training providers are to use these to adapt their curricula and courses.

A more detailed agreement has been agreed upon with the FEC to guarantee that the profiles are implemented in the Flemish educational system. On a policy level the Flemish government intends to make it obligatory for all schools to translate occupational profiles into key vocational competencies.

In 2000 the SEC intends to develop the project and overcome difficulties related to the definition and delineation of occupations and occupational clusters and the lack of transparancy between sectors and even between enterprises which makes it hard to assess which elements are crucial in defining relevant differences.

After three years operation, the occupational profiles produced under the programme represent key information for the vocational education system and help ensure that school leavers and trainees have the qualifications needed to enter and function in the labour market.

The strategic labour market research (SLMR) programme

The strategic labour market research programme followed a agreement in 1993 between the Flemish government and the social partners to start a strategic labour market research programme called VIONA (Vlaams Interuniversitair Onderzoeksnetwerk Arbeidsmarktrapportering, Flemish Inter-university Labour Market Reporting Research Network). The programme aimed to co-ordinate the then fragmented research activities and make statistical resources more accessible.

The SLMR programme consists of two major activities:

- ➢ the production of a yearly trend report on labour market evolution (a specific chapter deals with the links with education); and
- ➢ a labour market research programme for which the priorities are laid down by the steering group each year.

Two groups guide and orient the programme. These are the Strategic Labour Market Research Steering Group and the Inter-university Counselling Group. The Strategic Labour Market Research Steering Group is composed of several parties: the Flemish Government, the administration (ministry for employment), the social partners and representatives of the universities. The steering group decides on priorities, criteria and research projects. The Inter-University Counselling Group mainly consists of academics. This group watches over the scientific quality of the programme.

In 1996 the Flemish Government and the social partners agreed on the future course of strategic labour market research programme. This agreement brought forward two main points for attention: the valorization of research results and the development of a longer-term research approach.

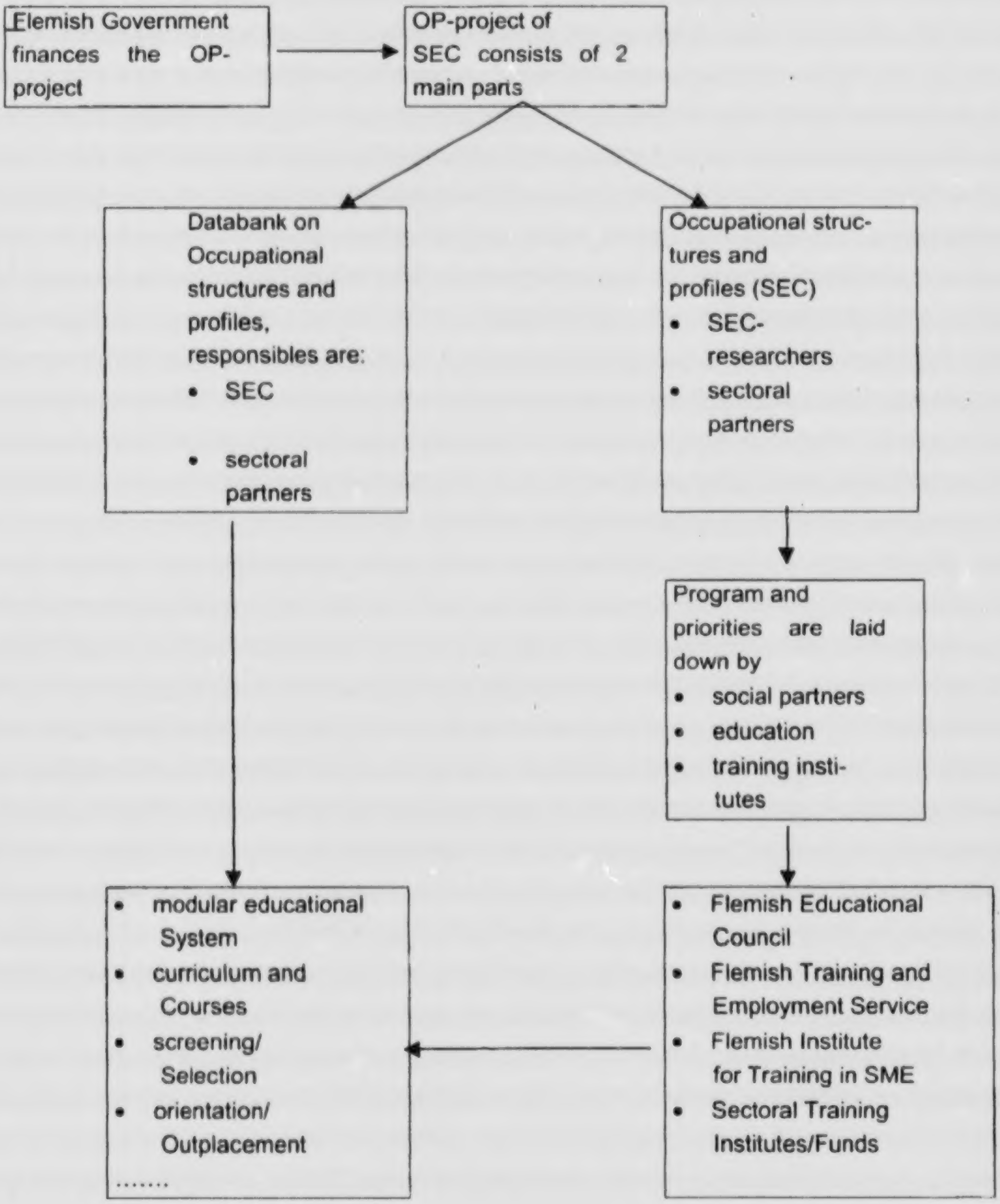
Concluding remarks

Through these two programmes, the Flemish community in Belgium makes a sustained effort to organise, structure and coordinate the process on which to base new and existing qualifications and competencies.

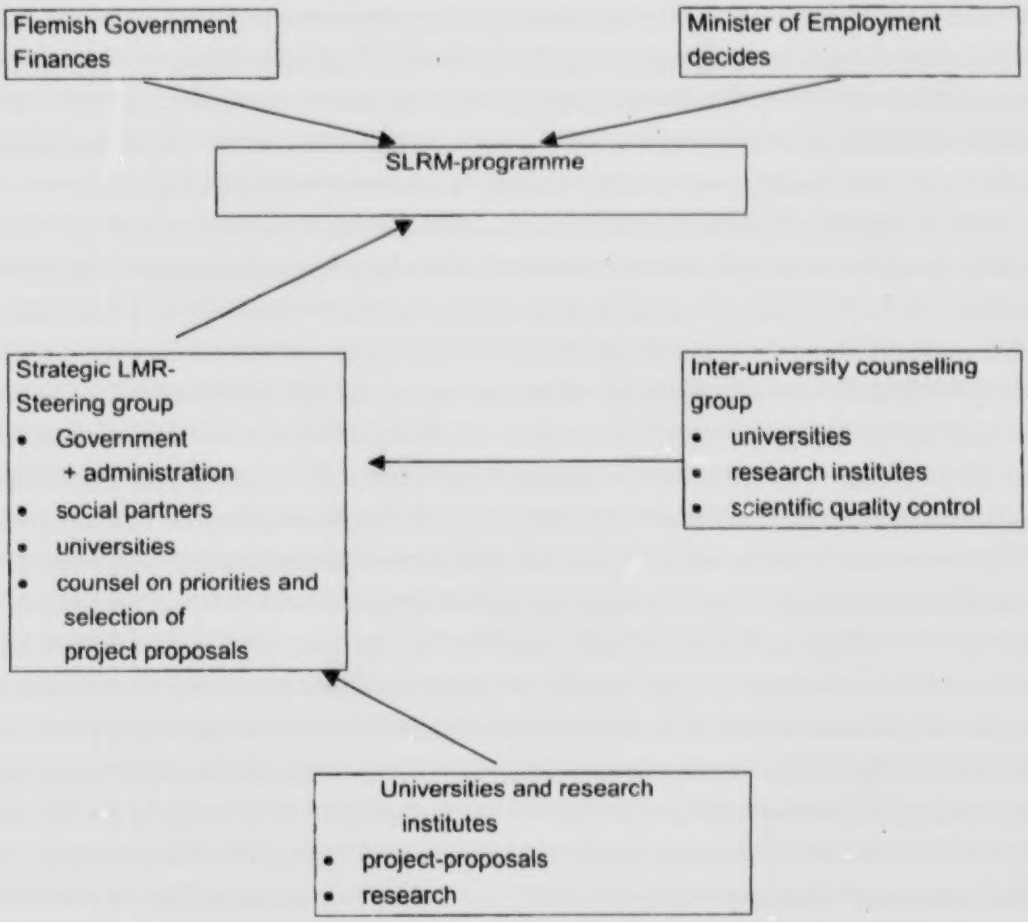
The responsibilities of the different actors and parties is clearly defined and delineated. One institution is made responsible for coordinating and the sustaining the whole process (the SEC for coordination and development of occupational structures and profiles and for the dissemination of results).

There are drawbacks, nevertheless. Most notably the fact that it is extremely difficult to detect and define new occupations with the methods described. To remedy this, the setting up of a network of research institutes working in the domain of new developments in technology, working conditions and organisations is recommended. Another important recommendation is for more inter-regional cooperation. The description of occupations should be more or less the same, certainly in neighbouring regions where there are important similarities between labour markets.

The OP project -
schematical representation of institutes and partners involved


Flemish Government finances the OP-project
OP-project of SEC consists of 2 main parts
Databank on Occupational structures and profiles, responsibles are:
• SEC
• sectoral partners
Occupational structures and profiles (SEC)
• SEC-researchers
• sectoral partners
Program and priorities are laid down by
• social partners
• education
• training institutes
• modular educational System
• curriculum and Courses
• screening/ Selection
• orientation/ Outplacement
....
• Flemish Educational Council
• Flemish Training and Employment Service
• Flemish Institute for Training in SME
• Sectoral Training Institutes/Funds

The SLRM programme -
schematical representation of institutes and partners involved


Flemish Government
Finances
Minister of Employment
decides
SLRM-programme
Strategic LMR-
Steering group
• Government
+ administration
• social partners
• universities
• counsel on priorities and
selection of
project proposals
Inter-university counselling
group
• universities
• research institutes
• scientific quality control
Universities and research
institutes
• project-proposals
• research

2. Belgium (French speaking)

Marc Ant

Unlike other countries, especially those bordering on Belgium, the vocational training system in French-speaking Belgium places few constraints on employers: employers have almost the sole initiative for setting up vocational training measures for their employees and therefore for the funding of that training. The legislation that there is has had little impact. (A 1963 law granted a "social advancement indemnity" for workers who take a general or technical training course and subsequent regulations in 1973 and 1985 further amended funding arrangements[6].) With unemployment rising from the 1970s, however, the decision was made to introduce further measures. For instance, in 1988, further to an inter-industry agreement, it was agreed that employers were to contribute a levy of 0.18% of their wage bill to help fund measures directed towards target groups liable to the risk of exclusion from the labour market. In 1990, the employers' contribution was raised to 0.25% and extended to the target groups of the low skilled. In addition to these measures, aimed at increasing the relative proportion of the cost of counteracting exclusion borne by employers. Similar initiatives were adopted in the field of alternance training, the main measure being the 1987 law on alternance training. All these measures have been introduced without the backing of methods, tools or instruments that could predict the qualifications and competences needed. As pointed out by a very recent study, French-speaking Belgium does not have sufficient institutional resources to predict employment and qualifications or to analyse training needs. The initial situation appears fairly scanty. The inventory of tools, parties involved and research existing in this field in French-speaking Belgium does not allow significant conclusions to be drawn. It would be helpful to develop such tools, especially in the context of the European Social Fund.

The general nature of the educational system and initial vocational training

Initial vocational training directed towards the ability to take up an occupation takes two forms in secondary education. One is technical education, based on general subjects and technical skills. This caters for 18.8% of 16-year-old pupils, leading to a certificate of education and/or qualification after the sixth year (CQ and CESS). The other is vocational education, teaching theory and providing practical training in a specific trade or occupation. This caters for 22.4% of 16-year-olds, leading to a certificate of education and/or qualification after the seventh year (CQ and CESS).

Schooling has been compulsory up to the age of 18 since 1983, but from the age of 15 it may be attended part-time in *Centres d'Enseignement et de Formation en Alternance* (CEFA - Alternance Education and Training Centres), sandwiched with work placements or contracts of employment (these are not compulsory). Work experience in certain occupations (as determined by an employers/union committee) may be regulated by a part-time, fixed-term industrial apprenticeship contract. Other types of initial vocational training are: apprenticeship organised from the age of 15 by the *Institut de formation permanente pour les classes moyennes et les PME* (IFPME - the Institute for Continuing Training for Small Firms and SMEs) for a period of three years; social advancement education; special education for young handicapped people; and non-university higher education.[7]

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[6] In 1973, new regulations were introduced, covering hourly training credits and stating that costs incurred by vocational training measures must be borne equally by the State and the employers. The law made little impact, however, and scant use was made of the credits. In view of these observations, in 1985 the concept of hourly credits was replaced by that of paid educational leave. This was not accompanied by major changes to existing provisions, except perhaps that paid education leave has since then applied to employees over 40.

Alternance or apprenticeship training

General description of the initial vocational training system

In the French Community of Belgium, secondary education - normally part of compulsory schooling up to the age of 18 - is made up of four streams: general, arts, technical and vocational. Technical and vocational education in particular is directed towards the learning of a trade or occupation. From the age of 15 or 16, pupils may take part-time training, provided in *Centres d'Enseignement et de Formation en Alternance* (CEFA) or other recognised centres such as the *Institut de formation permanente des classes moyennes et des PME* (IFPME). Only a minority of pupils, however, opts for such part-time arrangements.

Alternance training paths

The Law of 29 June 1983 on compulsory schooling provided for an option of part-time compulsory school from 15/16 to 18. The CEFAs are also covered by the French Community Decree of 3 July 1991 and the Decree of 18 March 1996. Part-time training in CEFAs includes 15 hours a week devoted to theory. Young people also have the option, which is not compulsory, to acquire work experience as part of a work placement or work contract. They may either enter into a contract of part-time work or a part-time work placement contract, or set up in self-employment or become an assistant worker. Grants and reductions in the employer's contributions are made where such contracts exist. Work experience may also be regulated by an industrial apprenticeship contract for a fixed period from 6 months to 2 years, under which the employer undertakes that the apprentice will receive practical training. Industrial apprenticeship is regulated by the Law of 19 July 1983.

IFPME also arranges for alternance training for young people aged 15 or over. The apprentice must undertake a practical apprenticeship for a trade in a workplace (for an average of 28 hours a week), where wages are usually relatively low. Complementary courses (in general and job-related subjects) are provided in one of the IFPME network centres. Apprenticeship is normally for three years. The main legislation covering apprenticeship is the French Community Council Decree of 3 July 1991.

The "employment-training convention" (Royal Decree 495 of 31 December 1986) allows jobseekers in the 18-to-25 age group to work half-time or less under a contract of employment and at the same time to take a recognised training course. Work-training enterprises (EFTs) set up training courses based on specific teaching methods combined with productive work, geared to entry into the working world.

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[7] Legal framework for part-time work: the Law of 29 May 1959 set up the two forms of secondary education, technical and vocational; the Law of 29 June 1983 on compulsory schooling; the French Community Decree of 3 July 1991 for CEFAs; and the Law of 19 July 1983 for industrial apprenticeship.

Types and role of the parties involved

The occupations for which industrial apprenticeship may be organised are laid down by a joint committee, the *Commission communautaire des professions et des qualifications* (CCPQ - Community Committee on occupations and qualifications. In the field of industrial apprenticeship, the social partners coordinate action to promote apprenticeship on the *Conseil National du Travail* - the National Work Council. Within the enterprise, the conduct and monitoring of apprenticeship are the responsibility of the works council.

In the field of continuing vocational training, the social partners have many roles and are of considerable importance. They are in particular represented on bodies whose concerns include continuing vocational training such as the *Comités subrégionaux de l'emploi et de la formation* (Sub-regional employment and training Committees).

Provision, access and participation

The provision of initial vocational training is essentially organised as part of the education system. Technical and vocational education prevails in the second and third cycles of education, catering for 55% of pupils enrolled. It may be observed, however, that the streams are becoming more hierarchical (progress in the technical and vocational streams is less fast than in general education), and the streams are in crisis (only a general secondary education diploma is seen as a potential guarantee against unemployment). For those young people no longer wishing to remain in full-time education the CEFAs or other recognised training centres such as IFPME offer part-time training consisting of general educational subjects and preparation for an occupation.

Outside this training time, a young person may either do no work or register as a jobseeker or acquire work experience. Young people aged 18 to 25 may also take such a training course, but in this case they must be employed on an activity under contract (Decree of 3 July 1991, amended on 18 March 1996). Secondary education is directed towards 12,000 handicapped pupils, the aim being to enable them to take up an occupation. Access to initial vocational training depends on the young person's age and therefore his or her compulsory schooling status (full-time and then part-time) up to the age of 18. The involvement of employers in initial vocational training is greater among small firms and in the hotel and catering trades, in the service industry and in metal construction, metallurgical and electrical engineering firms. Almost a quarter of foreigners are in initial vocational training, compared with an average of 11% in general secondary education.

Validation, certification and diplomas

The certification of qualifications is guided by two principles: the sole monopoly of certification rests with the Community, and certificates issued by recognised teaching establishments have to be approved by the Community.

The CEFAs issue different types of certificate: certificates of attendance, competence, qualifications, business management, and certificates of return to full-time education. IFPME's initial training leads to a certificate of apprenticeship, approved by the Education Ministry, which allows access to the Institute's training for heads of enterprises. The various training providers - public, semi-public or private - issue a range of certificates of completion of training, their value being determined by the reputation of the training course itself.

Integration of vulnerable target groups through alternance training

Outside the school, training for jobseekers often consists of placements, directing towards jobs, for example in the context of EFTs, work-training enterprises, or directing towards jobs provided by the *Centres publics d'aide sociale* (CPAS - public social support centres). These arrangements have not, however, led to the results hoped for, and little training of this kind is conducted.

Key figures

In 1994, some 12,500 young people (about 8.25% of all those in initial training) took initial training on an alternance basis in the CEFs and IFPME. Only a few hundred pupils took up industrial apprenticeship (750 nationally); in the CEFAs, there were 4.5% of industrial apprenticeship contracts in 1994. The budget allocated to the CEFAs and IFPME amounted to BEF 1 billion (25 million ECUs).

General description of the continuing training system

Special features of the Belgian vocational training system are the diversity of providers and the difficulty of differentiating between initial vocational training and continuing training. The transition measures allow those in the 18-25 age group to work half-time and to attend training (under an employment-training convention). The continuing training of employees, moreover, has several pillars: social advancement education for those wishing to return to education or acquire a specialist skill, leading to certification; the work of FOREM or IBFFP (in the Brussels Region), a regionalised public body (1995) that arranges for courses in its centres and in the workplace for jobseekers and workers; the work of IFPME; the *Fonds pour l'intégration des personnes handicapées* (Fund for the integration of the handicapped); and training provided within and on the initiative of enterprises, etc. The system of allowing private-sector workers to take paid educational leave for their own advancement takes the practical form of the right to be absent from work for training, the employer being refunded by the State for the direct cost of this absence.[8]

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[8] Partial legal framework: the Employment-training Convention (Royal Decree 495 of 31 December 1986, amended); youth placements (Royal Decree 230, 1998); paid educational leave (reform Law, 22 January 1985); plan for the support of the unemployed (Cooperation Agreement of 22 September 1992 and 7 April 1995); FOREM (Decree of 16 December 1988, and Region of Wallonia and Brussels Region decrees).

The role of the social partners

The involvement and role of the social partners take various forms (notifying the authorities, help with implementation, initiatives in setting up systems) at various levels (inter-industry, intra-sector and ministerial agreements). In practice they assume several functions: planning, financing, implementation and supervision. Their functions in the field of initial training include defining job profiles and training through their representation on the CCPQ, and coordination of action to promote industrial apprenticeship through involvement on the National Labour Council's joint committees on apprenticeship. Their functions in continuing training are representation on relevant bodies such as the Employment and Training Committees, FOREM, social advancement, participation in special measures (local or regional schemes); the management of initiatives for the training and integration of groups at risk; and the implementation of measures such as paid educational leave and employment-training conventions.

Investment in vocational training

It is no easy matter to assess the French Community's investment in initial training because of the wide range of operators and the diversity of their activities, which are not confined to vocational training in the narrow sense of the term. Several methods of estimating have therefore been needed. The total investment by various operators in initial training is estimated at about BEF. 31 billion, 82% of which is invested in technical and vocational education (in 1994). Two types of financial support are granted to enterprises associated with the initial training of young people under alternance arrangements. Firstly, regional grants (BEF 7,500 to 50,000 a month) are awarded on recruitment (under a part-time contract for an indefinite period, an apprenticeship contract or an employment-training contract). More specifically, in 1995, the Brussels Region paid 116 transition grants (BEF 10,000 a month) and Wallonia set itself the goal of achieving 400 alternance contracts (BEF 50,000 per year) in 1996. Enterprises may also be allowed reductions in their social security contributions (BEF 30.9 billion reductions during the first quarter of 1996), which may be accumulated with grants. Expenditure on continuing training by the Region of Wallonia and the Brussels *Commission communautaire française* (COCOF - French Community Committee), not counting other investments such as subsidised jobs, amounted to BEF 4.2 billion in 1995, 49% of which was made by FOREM; or BEF 8 million if the social advancement education budget is included. Vocational training, then, accounts for one fifth of spending on active labour market policies, increasing year by year. We should also take into account the financial incentives for firms (direct aid, the impact on productivity, FOREM support) and individuals (paid educational leave, taken by 35,757 people, 60% with employee status, in 1993/94).

Training provision and participation

The provision of continuing training comes from many parties: FOREM, *Bruxelles Formation* (which implements FOREM's responsibilities in the Brussels region), *Enseignement de promotion sociale*; IFPME; the Sectorial Fund, the *Centres publics d'aide sociale* (CPAS - public social support centres); *organismes d'insertion socioprofessionnelle* (OISP - socio-occupational integration agencies), employers, *Formation pour les personnes handicapés*; *Entreprises de formation par le travail* (EFT) (Region of Wallonia), *Ateliers de formation par le travail* (AFT - work/training workshops) in the Brussels Region, and distance learning.

Enseignement de promotion sociale offers almost 140,000 training modules, mainly for people aged over 16. FOREM courses are directed mainly at jobseekers (85.6%), close to 75% of which are given directly in its own centres while the others are provided in partnership with employers, associations, the authorities, etc. IFPME offers three types of training: basic training (preparation for self-employment, including training for heads of enterprises), extended training (refresher training for heads of enterprises) and complementary teacher training (basic and refresher training for teachers). The sector-specific funds and joint employers/union agencies arrange or subsidise essentially technical training courses related to their own sectors, funded through the 0.18% to 0.25% levies on employers' wage bills, once the need to provide for jobs in the sector has been determined. The CPASs' main function is to provide guidance, but they also offer training. The OISPs make up the association sector, directed at a group of young people without higher education and not registered as jobseekers.

Employers organise many forms of training. One employee out of three will have access to training at work each year, lasting an average of 17.9 hours. Nevertheless, there are differences from sector to sector. The financial intermediaries sector is in the lead, its employees being able to look forward to 27.1 hours' training and a 45.8% access rate. The EFTs and AFTs are directed towards disadvantaged target groups (from the lower level to holders of secondary education certificates), who have often at odds with other methods of training (here the effort is to return them to social life). During the reference period, almost 3% of the Walloon active population and almost 5% of the Brussels active population benefited from continuing training. This figure, however, is an under-estimate of the number of people training in 1995.

Other aspects

In terms of quality assurance, there are no standard regulations to promote the quality of training, but various monitoring mechanisms are used: the *Commission communautaire des professions et qualifications*; the *Enseignement de promotion sociale* inspection system; the OISP approvals committee; and the system based on ISO 9001 within FOREM. The certification of qualifications is based on two principles: the Communities have a monopoly, and they approve the certificates delivered by recognised teaching organisations. Secondary education and social advancement education lead to two types of certificate: certificates of education (lower or upper secondary) and certificates of qualification, which can also be obtained following attendance of a CEFA. IFPME gives an entitlement to an apprenticeship certificate. The other operators issue certificates of success.

Key figures

The total investment in vocational training by the French-speaking Community is BEF 31 billion plus BEF 8 billion in vocational training, i.e. one fifth of spending on active labour market policies. Attendance of initial training amounts to 8,000 to 8,500 youngsters in part-time alternance training (1995). It is estimated that close to 3% of the Walloon active population and close to 5% of the Brussels active population benefit from continuing training.

Nevertheless, the compilation of information on workplace training is not systematic. It is the product of university research, usually taking sectorial and qualitative approaches, and of surveys on the paths taken by young people and the regional needs.

Conclusions

By not introducing restrictive legislation on vocational training, Belgian law-makers signalled their preference for leaving the initiative to private operators. In so doing, the Belgian Government has acceded to the demands of employers, who would like to retain maximum freedom in their decision-making and, by this means, can pass on a major share of responsibility for vocational training to the employees themselves.

Among recent developments, of interest is the marked tendency to regionalise vocational training policy. The responsibility for training was transferred in 1994 to the Walloon Region and to the Brussels COCOF, in close consultation with the Walloon social partners, for example through the declaration on economic redeployment and the promotion of employment, the *plan d'accompagnement des chômeurs* (PAC - the plan for the support of the unemployed), support for groups at risks, regulations on vocational training measures, in particular social advancement education and part-time education (1991) as well as the amendment of measures on occupational integration and training through work, regulations to promote access to work, including the paid educational leave system, with successive limitations in 1993 and 1995. The PAC (1992) is designed to help those unemployed for over 10 months without a higher diploma, providing them with support in jobseeking, especially training.

The tendencies and general priorities reflect the development of several factors:
- continuing training in the workplace (rising expenditure on training and the higher percentage of enterprises investing in training);
- alternance training for young people during their extended period of compulsory schooling and for jobseekers;
- the vocational training "market" in the commercial sector (private centres, consultancy) and among associations. In other words, the field of vocational guidance has expanded to include these operators, partly because the scale and duration of youth unemployment have caused them to invest in the new field of "job transition";
- the involvement of the social partners;
- the setting up of channels of access to work, through the classification into categories of the bodies providing vocational training;
- determination of a path towards qualification with the trainees;
- consultation between the trainee and the training provider at sub-regional level.

In addition to this transfer of responsibilities for vocational training from the Community to the Regions (Brussels and Wallonia), mention should be made of the growth of alternance training for young people, one of the main trends in the development of the vocational training system. Over more than 10 years various arrangements have been introduced for the alternance of training and employment. Similar efforts have been undertaken for jobseekers. Overall, however, these measures are still marginal, both in initial and in continuing training. It was with this observation in mind that a joint declaration was issued by the Government and the Walloon social partners (1996), advocating the development of a true alternance stream in Wallonia.

Finally, there has also been a great expansion in the provision of training on competitive market lines, without joint planning. Institutions such as the local and regional Missions and the *Comités subrégionaux de l'emploi et de la formation* have been set up and assigned a role of coordinating training within a given geographical area. In this way, partnership among providers is becoming a key factor in training policies.

Methods, tools and instruments for anticipating competencies and qualifications

It has to be recognised that there is no coherent, systematic approach to the compilation of information on the vocational training system and practices in French-speaking Belgium.[9]

Despite the existence of specific, one-off surveys[10], as well as the annual reports published by FOREM and the French Community Ministry of Education and Training, the approach cannot be said to be global or consistent. On the subject of determining training needs, mention should be made of the research undertaken by the sub-regional employment committees, which have also set up registers of training to identify the training providers active in their respective regions. Another example is the Liège Employment Observatory, which conducts research on training needs in the region of Liège. The national report of the *Fondation Travail-Université/Dulbéa* on the implementation and impact of the Leonardo da Vinci programme in the French Community of Belgium states (p. 96) that "At the level of the structures set up to help organise the monitoring of developments in vocational training and qualification needs, we should mention the sub-regional committees, whose tasks include the compilation of data on their region (in particular the training registers), the forthcoming establishment of employment Observatories (one in the Brussels Region and one in the Walloon Region). The creation of the *'carrefours-formation* ' (training crossroads) should also promote a considerable improvement in the quantity and quality of research on the future of vocational training and qualifications."

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[9] Fondation Travail-Université/Dulbéa, *Rapport national sur la mise en œuvre et l'impact du programme Leonardo da Vinci en Communauté française de Belgique* [National report on the implementation and impact of the Leonardo da Vinci programme in the Belgian French Community], Brussels, 1996. pp.95-96.

[10] Vandewattyne, J; Van Assche, E (1990); *L'effort de formation des entreprises en Belgique* [Employers' training effort in Belgium], Fondation Industrie Université, Brussels.

De Brier, C. (1990); *Les pratiques de formation dans les entreprises belges* [Training practices in Belgian enterprises], Louvain-la-Neuve, UCL-IST.

De Brier, C; and Meuleman, F (1996); *Résultats finaux de l'enquête sur la formation professionnelle continue en entreprise* [Final results of the survey on continuing training in the workplace], FORCE, Brussels.

The report by the *Fondation Travail-Université* goes on to explain that "... in the French Community no systematic research has been conducted on the status of continuing and initial training or on employers' needs for qualifications."

The first step should be to set up regional and/or national structures with the aim of observing vocational training policies and practices, systematically compiling data on the status of vocational training. Secondly, these observatories should not confine themselves to simple studies, merely analysing the situation as it stands at a given point or points in time. These institutions should also, based on the compiled data, develop appropriate instruments and tools to introduce a more forward-looking and predictive approach. If vocational training is in fact this vital challenge to the socio-economic development of our societies, as is constantly being argued in the course of searching debate, the State and social operators should make precisely those instruments and tools available to employers and individuals. If this is not done, the role of vocational training will continue to be confined to its function of adaptation and social remedy.

In this context, a recent report[11] published in April 1999 as part of the assessment of programme Objective 4 and the ADAPT initiative (1995-1997) directed by Christian Maroy and Gérard Warnotte of the Louvain Catholic University comes to more or less the same conclusions. The authors of this study state (Volume 1, p. 145) that French-speaking Belgium has too few institutional resources to anticipate employment and qualifications or to analyse training needs. Developing this argument, the report points out that industrial changes are creating various training needs, but these can only be diagnosed and specified if there are at least the minimum tools and institutional resources available. The report also points out that the planning and regulation of the provision of vocational training are feasible only if the recurrent data on trends in jobs and qualifications in the leading economic sectors are available. Binamé et al (p.145), however, state that the initial position is fairly unpromising. Their inventory of tools, operators and research existing in this field in French-speaking Belgium calls for no more than the following observations.

First of all, admittedly the picture is not completely blank. There is some macro-economic forecasting of trends in jobs in different sectors, setting out relatively aggregate figures. These econometric forecasts, conducted by various institutes, can be used for certain forward planning. In the same way, an institution that can determine recurrent and more detailed information on quantitative trends in occupations, jobs and occupational categories within specific sectors has been established fairly recently. The setting up of the Community Committee of occupations and qualifications, moreover, means that a quantitative analysis can be conducted of job profiles and the competences required for a given occupation. This institution, however, can engage only in forward planning, so that in general there are great gaps in our knowledge of the developments generated by industrial change and their effect on the needs for competences and qualifications.

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[11] Binamé, J.P.; Conter, B.; Lamby, P.; Devos, V. Maroy, C; Warnotte, G. (1999). La formation et l'adaptation des travailleurs aux mutations industrielles. L'intervention du Fonds social européen en Belgique Francophone [Worker training in and adaptation to industrial change. The intervention of the European Social Fund in French-speaking Belgium], Louvain-la-Neuve : Université Catholique de Louvain.

These limitations in our knowledge of trends in the qualifications and competences required are due to the lack of a systematic, global approach to the whole of French-speaking Belgium, but they are at least partially offset by the existence of a large number of one-off studies produced by university or para-university institutions. The ULB *Centre de Sociologie du Travail, de l'emploi et de la Formation*, for instance, has produced an inventory of studies and predictive analysis associated with industrial changes and trends in production systems in 1996-1999[12]. This inventory lists and presents in the form of analytical data tables 131 studies up to 1 June 1999 relating to trends in jobs and qualifications in 12 sectors of the economy, in the form of various publications in French-speaking Belgium.

Although this analysis is of undoubted value, Biname et al (p. 145) remark that there are many limitations in these studies, such as too little coverage of sectors and occupations, as well as a wide variety of methodologies applied, and even some methodological weaknesses.

The authors of the study conclude, then, that in French-speaking Belgium there is a great shortage of the institutional tools and resources needed in establishing forward planning for vocational training.

Despite everything, however, new initiatives are being set up in the Walloon Region, and these may help to develop such instruments. They mention the *Observatoire de l'emploi*, and the studies coordinated by the CSEFs on trends in employment and qualifications. They also conclude that slowly work has started on creating the tools for the analysis of trends in jobs, occupations and qualifications, partly due to the impetus imparted by the ESF and, more broadly, due to greater awareness of the need for continuing training, promoted in particular at European level. In their recommendations, the authors (Vol. III, p. 21) propose an examination within the ESF of certain anticipatory studies focusing on very specific sectors or occupations that are sensitive to change. The authors go on to say that these should also lead to a variety of results and follow-up: greater awareness of and information on the subject, training measures and the arranging of audits and advice within enterprises.

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[12] Centre de Sociologie du Travail, de l'emploi et de la Formation (TEF), ULB. (1999). Inventaire des études et analyses anticipatives liées aux mutations industrielles et à l'évolution des systèmes de production 1996-1999 [Inventory of studies and forward analyses associated with industrial change and trends in production systems, 1996-1999]. Interim Report, Brussels, TEF-ULB.

3. Denmark

Bruno Clematide, Finn Tidemand and Peter Plougmann

Characteristic features of the Danish labour market are: a high level of tripartite co-operation, strong organisations on both sides of industry and collective agreements which effectively "regulate" the VET system. But there is no single national co-ordinating body for labour market forecasting activity in the country. The labour ministry carries out traditional-style labour market forecasts on a quarterly basis while the ministry of business and industry makes use of more contemporary, "supply-side" tools such as "resource area analyses" (which consider, separately, eight sectors of the national economy and involve compilation of information from statistics, interviews, literature studies and case studies; results have been successfully used to help extend the employability of low-skilled workers in some sectors). A recent innovation was the creation of a widely constituted Welfare Commission which reported in 1995 on the implications for the Danish labour market and industry of globalisation. Other significant groups involved in anticipation work in Denmark are the participants of the public CVT system (the "AMU" system) which has, for example, facilitated the re-skilling of people from the agricultural sector. The Danish Technological Institute has also had success in applying the method known as Industrial Sociological Qualification Analysis in the plastics industry, a project aimed at helping a mainly female, unskilled and untrained group to participate in job development; it demonstrated that "co-ordinated efforts with course participation and job development do pay off for enterprises as well for the individual employees".

Several summary descriptions are provided here of these and other anticipation methods. Two national statistical surveys of the labour market are described (the IDA and SMEC studies) and also an "enterprise demography" method (ADAM). Two types of studies of regional trends are described: quarterly outlooks (carried out by the Regional Labour Market Council) and regional statistical analyses (using a model devised by Danmarks Statistik).

The main players in Denmark

At both the national level and the regional level in Denmark there are public institutions and tripartite bodies involved in labour market analysis and VET research. There are also independent research institutions which provide services to the other players.

At national level, the monitoring of labour market and employment trends is primarily under the auspices of either the Ministry of Labour or the Ministry of Business and Industry.

The most important player under the Ministry of Labour's jurisdiction is the Public Employment Service (PES, in Danish AF) which is one of two pillars of the Directorate General for Employment, Placement and Vocational Training (AMS); the other is The Adult Vocational Training and Education System (AMU) described in some detail below. At national level, the monitoring activities of the PES are primarily at the regional level, as the PES acts as the secretariat of the Regional

Labour Market Councils. The AMS also carries out, or asks external consultancy firms to carry out, applied R&D in the field of labour market monitoring.

Another organisation to be found at national level is the National Labour Market Council (NLMC, in Danish LAR), which is not directly under the auspices of the Ministry of Labour but consists of representatives from the social partners, the municipal authorities, and the state labour market administration. The NLMC participates in the general management, planning and coordination of placement services and in the fixing of targets and priorities in connection with the regional administration of the national labour market policies.

The Ministry of Business and Industry monitors employment trends in different ways. Since 1993 it has published the so-called Erhvervsredegørelsen (Business Environment in Denmark) which is a comprehensive description of Danish industrial policy and the most important problems facing employment in Denmark.

The analyses are not only annual reports but also identify core issues which are analyzed in depth: for example, the consequences of the increasing globalisation of the Danish economy and the structural problems in the Danish economy. Also the influence of information technology on competitiveness and the possible employment potential of the service sector is described.

Key issues for the Ministry of Business and Industry are change in the international division of labour and the consequent high level of unemployment in Denmark. Best prospects for new job creation are in the private service sector which has two fundamental characteristics: it is not exposed to competition in the same degree as the export sector and it can employ large numbers of semi-skilled workers who are, at present, the largest group of unemployed.

The analyses in the Business Environment in Denmark report are primarily based on previously published material on industrial change and employment but the Ministry itself also carries out quantitative analyses of the economic development and employment shifts.

Besides these ministries and the regional bodies, a number of more or less independent public and private research or consultancy bodies are involved in monitoring the labour market and anticipating industrial change. The most important ones are Danmarks Statistik (the central Danish statistical bureau), the Danish Technological Institute, the Danish Economic Council, the Economic Council of the Labour Movement, the universities and other higher educational institutions, the system of private business service suppliers and the social partners.

Danmarks Statistik provides statistical material on a wide range of issues connected to the monitoring of the labour market, such as the IDA database (described in the full version of this report) which it developed for labour market research purposes. In general, this material is also available on the regional (counties) level. National-level statistical material is collected on the labour force, the number of employed people, the number of self-employed and the number of unemployed, etc.

The Danish Technological Institute provides analyses of shifts in employment, trades and vocational training (further details are given in the full version of this report).

The Danish Economic Council (DØR) provides comprehensive analysis of the Danish economy, including studies on unemployment, the development in wage-structures, etc. DØR was established in 1964 by the Government so as to be "independent of both commercial and political affinity". It is chaired by professors in economics from one of the universities or other higher educational institutions.

Another player in this field is the Economic Council of the Labour Movement (AE). This was established in order to provide economic analyses and policy recommendations to the Danish labour movement and its representatives in Government working groups where the social partners are represented, eg the Industry and Trade Development Council

Both DØR and the labour movement's AE monitor employment trends, basing their work on empirical, quantitative data and making use of economic models as an important tool in their projections. AE uses the same model (ADAM) used by the Ministry of Finance, by the larger private banks and by the research and analysis department of the employers organisations (DA and DI). DØR uses its own model (Simulation Model of the Economic Council, SMEC) which was initially developed in order to meet the demand for an independent monitoring institution.

Although they are based on the same tradition, both models represent "Keynesian", demand-based approaches to the economy and also incorporate the supply side, eg the size of the labour force, in the predictions. Differences in the predictions occur partly because SMEC is basically a one-sector model, while ADAM covers 14 sectors, but also because of the different interpretations of the output.

National level policies and tools

The employment shifts due to industrial change are dealt with by two different approaches. That of the Ministry of Labour and its associated institutions is based on the "supply side" thinking. The policies implemented are focused on the unemployed and only indirectly do they involve the employed. For the employed, the policies are focused on different kinds of vocational education and training.

The second approach is based on the demand side of the labour market and is primarily carried out by the Ministry of Business and Industry with a view to general improvement of the business environment in Denmark.

AMS's quarterly outlook

Job rotation scheme

A tool for the anticipation of the employment effects of industrial change which is developed at national level, but implemented at regional level is the "job rotation scheme", whereby employees choose to take educational leave, child care leave or sabbatical leave while unemployed people take over their jobs on a temporary basis. The only condition is that a number of unemployed are recruited equivalent to the number of employed receiving education or taking leave. An unemployed person takes over the job while the employed person joins a vocational training course, takes a sabbatical or child care leave. The unemployed beneficiaries of the scheme may themselves receive preparatory training financed by the Government prior to the placement. The enterprise receives financial support to engage the unemployed person.

Resource area analysis

A new approach in anticipation research has been the Resource Area Analysis method developed by the Danish Agency for the Development of Industry and Trade under the auspice of the Ministry of Business and Industry. In the analysis, the Danish economy is sub-divided into eight "resource areas" each defined by joint dependency on mutual resources and competencies. A resource area consists of the enterprises and institutions which jointly lead to a group of products, with shared market characteristics, reaching the consumer. The eight areas are: pharmaceutical industries/health; foods; transport/communications; construction/housing; environment/energy; consumer goods; tourism/leisure; services.

One part of the analysis is a traditional statistical description including the number of enterprises, the size distribution and, for some enterprises, the export rates and the growth rates. In the second part of the analysis, the method used is the so-called SWOT analysis covering both internal aspects of the enterprises' own competencies and resources (eg marketing, exporting and innovative competencies and financial, human resources), and the external factors, related to the business environment. The SWOT analysis makes use of statistics, interviews, literature and case studies. In some of the resource area analysis scenarios were produced, each related to different developments in the internal and external environment of the resource areas.

An example of a scenario approach for a particular business sector might involve:

- the *laissez-faire scenario*, in which no political actions are taken to anticipate the identified strengths and weaknesses of the sector (and as a consequence only 30,000 persons are seen as likely to be employed in the sector in the year 2003); and

- the *employment scenario*, in which policies have been implemented, eg subsidies to SMEs and a general improvement of the business environment (as a consequence of which by the year 2003 it is estimated that 225,000 will be employed in the sector).

In this case, the Ministry initiated a comprehensive industrial policy scheme to support the development of more new jobs for semi-skilled persons in the private service sector, especially in personal services. As a result, the Hjemmeservice scheme was established in 1994 in order to create job opportunities for semi-skilled and un-skilled persons. The scheme provides wage subsidies to enterprises which carry out services for private people in their households. More than 2000 jobs have been created. Enterprises which want to make use of the scheme have to be registered with the local authorities as a Hjemmeservice enterprise.

The National Commission on the Future of Employment and Industry Development (Welfare Commission)

At the end of 1993, the Danish Government asked a joint Commission representing broad interest groups in Danish society (eg. trade and industry associations, unions, academics, business- and civic leaders) to investigate the future challenges facing employment and industrial development due to the new international division of labour, the rapid diffusion of information technologies and the creation of new demands for services.

The Welfare Commission was asked to put forward political recommendations on what should be done in order to utilize new business and employment opportunities and what should be done in order to prevent the negative impacts of social polarization, ie the marginalization of low income groups and low skilled labour.

The Commission undertook a thorough analysis of the strengths and weaknesses of the Danish industrial production system, the labour market segmentation, and its functionability as well as the national income redistribution system.

Specific interest was paid to the problems of the massive loss of jobs fit for unskilled/low skilled labour and the missing productivity effects of major investments in information technology made by both private and public enterprises. A large number of background reports were published prior to the release of the conclusive report by the Commission. The reports and the recommendations represent the most comprehensive attempt to date to anticipate future changes in employment patterns and income distribution in Denmark

Instruments used at national level to forecast employment trends

In the the full version of this report, the following instruments are described:

- IDA, an integrated database for labour market research
- ADAM, the annual Danish aggregated model
- SMEC, simulation model of the Danish Economic Council

Policies at regional level

At the regional level, the dominant players are the Regional Labour Market Councils (RLMC), whose secretariat comprises employees from the regional branches of the Public Employment Service (PES, the other regional player).

Since 1976, Regional Labour Market Councils have operated in each of Denmark's 14 counties, in close cooperation with the public employment services. The members are representatives from each of the employers' organisations, the employees' organisations and the municipalities and counties. Their task is to ensure a balance between the demands for, and the supply of, labour and skills within the general economic and political context. Thus the RLMCs play a central role as regional political bodies as well as a regional observers.

Several types of analyses are carried out. In general, RLMCs monitor the employment pattern and the labour market with special emphasis on future demand for labour and skill needs. If urgent problems arise, the council will focus on them by carrying out analyses and by appointing committees to work with the issue.

Two examples of analyses which the RLMCs carried out in response to change in the demand for labour and qualifications are presented below.

Skill needs for the bridge

The RLMC and the regional branch of the PES are presently carrying out an analysis in the Greater Copenhagen area to address the future skill needs when the bridge between Denmark and Sweden is built. The approach in this analysis is a combination of both quantitative and qualitative research, and it combines information from both the demand side and the supply side of the labour market. Qualitative interviews are carried out with the managing directors of the main contractors on the building of the bridge in order to identify trends in the future demand for labour. Quantitative analyses on the supply side are, in combination with the demand side analyses, made on the regional workforce. The educational background and the employment of the potential workers are analyzed and the necessary training activities are initiated.

Banking and insurance

Most of Denmark's banking and insurance companies are placed in the Greater Copenhagen area. During the last three years, this sector has faced huge structural changes. Many banks have been closed, and many employees have been laid off. In the analysis from the secretariat, the skills of the employees within the banking sector were in focus and many proposals were made to promote employment within other sectors for those displaced.

This analysis is based on two major parts. First, a quantitative analysis describing "who is the dismissed from the sector". This was a quantitative analysis based on a questionnaire, and it provided the description of the unemployed according to their gender, age, education, occupational experiences and their present unemployment pattern. Furthermore, their participation in active labour market activities and their present job seeking behaviour was described. Second, a qualitative analysis consisting of three elements. The first element was a number of qualitative interviews with unemployed. These interviews gave a description of their reaction to the dismissal and their attitude towards possible future employment. Furthermore, issues such as their possibilities for vocational training and their strategies for the future were described. The second element was an questionnaire-based evaluation of a training course for unemployed from the sector, and the third element was interviews with MDs on the future trends in the sector.

Both analyses were used as a basis for the initiating of the necessary employment and training activities launched by the PES.

Besides the Ministry of labour/AMS quarterly outlooks referred to above, the RLMC secretariats each year carry out further analyses within specific sectors where major changes in the employment pattern or in the demand for qualifications are foreseen. The DTI carries out work for the AMS to help anticipate these mixed work methods in the RLMCs.

The analyses of the RLMCs are based on a combination of the following sources:

- quantitative analysis of regional employment and unemployment statistics
- the compulsory reports from employers who are about to make dismissals on a larger scale
- interviews with regionally based enterprises on their long and short term labour requirements, both as regards the number and their qualifications
- interviews with employers' organisations on the general development and the regional development within their branches
- interviews with educational institutions on the supply and demand of different educational offers
- interviews with unemployed in exposed groups

In the full version of this report, summary descriptions of the above-mentioned RLMC quarterly outlooks and the RIMO (Regional Interactive Model) method developed by Danmarks Statistik are presented.

Anticipating the effects of industrial change on trades and vocational qualifications

VET system develpments in Denmark

In Denmark, initial vocational education is based on the principle of alternance. Apprentices are employed by a single enterprise during the entire period, usually 3-4 years.

A public system of continuing vocational training (CVT), the so-called AMU system, has operated for more than 35 years. It was originally targeted at re-orienting people from the agricultural sector to the growing manufacturing system. Today the AMU system is much more directed towards updating the qualifications of employed and unemployed people; course content is largely determined by the social partner bodies. In 1993, according the National Labour Market Authority, about 265,000 people participated in AMU courses, which are typically of 1-3 weeks in length. Another form of CVT, "open education", is organised by the providers themselves, without influence by the social partners. Here, the participants pay a fee and choose their own courses which, in contrast to AMU courses, are held in the individual's spare time. In 1993, about 21,000 students followed these courses, which are mostly focussing on business-related subjects.

Both Continuing Vocational Training (CVT) and initial vocational education are principally ruled by defined settings on national level. However, these settings contain a certain degree of freedom for the parties involved at regional/local level, ie the direct training providers: AMU centres, technical colleges and business colleges. In both systems, the task of forecasting and anticipating industrial change is clearly defined as being a task for the joint CVT and trade committees consisting of the social partners, because the responsibility for defining the contents in all CVT courses and initial VET lies here. The role of the government in this connection is to control whether the laws and rules are complied with and to give financial support to the committees when these feel the need for initiating studies, eg about how industrial change influences qualificational demands.

The CVT and trade committees

In the AMU system there is a rule that every AMU course has to be revised at least every five years. In practice, the curricula for the courses are adjusted at even shorter intervals. The CVT committees decide these revisions. The concretization of the new goals into curricula is then very often financed by the National Labour Market Authority and implemented by the teachers.

A similar rule for updating curricula does not exist for initial vocational education. But most trade committees conduct from time to time - between 6 and 8 years - what are popularly known as *main inspections* covering the relevance of the curricula, the necessity for the existing specialities , etc. The methods used in these inspections vary. For example, external consultants may be asked to organize a conference with "spearhead" enterprises to achieve a longer term perspective on future requirements.

Another important information tool for the CVT and trade committees is continuous dialogue with enterprises. Many of the anticipation policies in the CVT field developed out of direct dialogue with enterprises rather than through the use of sophisticated analyses. The head of the secretariat of the CVT committee in the metal industry is quoted as having answered the question, "How are AMU courses kept up to date?", as follows: "We know what's going on in the enterprises. We have many ad hoc groups with enterprise representatives, and we do not need large analyses". These ad hoc groups are based on joint commitment. The secretariat commits itself to developing a course together with teachers from AMU centres or with external consultants. The enterprises commit themselves to sending employees to the courses for which they have defined a need. A typical result of this procedure was a three-day course , *Production Groups*, for which employees and middle management from the enterprises starting up production groups developed the course rules, ie the role of the group coordinator, planning procedures, obligations and the competence of the group members.

Industrial Sociological Qualification Analysis in the plastics industry

When CVT or trade committees feel the need for a longer-term research orientation they may ask universities, the DTI, their own consultants or others to conduct such studies. One approach to longer-term forecasting research is known in Denmark as the DTI industrial sociological qualification analysis method (ISQA), which is described in detail in the original version of this report). It has been used in several sectors such as cleaning, plastics industry, electronic industry, transport, clothing industry, furniture industry and CNC machines in the metal industry. The initial questions from the side of the CVT committees have often been questions as to how technology developments influence qualification needs. The DTI approach includes an analysis of work organization, thus contributing to open discussion about possible alternatives to Tayloristic production principles, including aspects of how CVT and VET can foster non-Tayloristic production systems.

The original report describes an illustrative example of the ISQA method in use. A study initiated by the CVT committee in the plastics industry in 1987 was used to develop new courses in the AMU system. Enterprises involved and AMU centres subsequently demonstrated that the new courses, combined with follow-up efforts, had adequately taken account of industrial change.

In 1997 over 50 per cent of the employees in the Danish plastics industry were unskilled women occupied in narrow jobs of item manipulation and simple machine operations. The normal way of recruitment was, at that time, to hire people "from the street." Training in these jobs was very limited and consisted of brief instructions from supervisors and colleagues. There was no doubt at all, that those, at a high degree unskilled, women risked - at least at medium or long term - losing their jobs, because these jobs were and still are subject to on-going automation. A way of reducing this risk was to participate in job development towards broader jobs.

The recruitment method in use at the time turned out to be a significant barrier to possible job development. It did not guarantee knowledge of plastics being brought into the group of operators. Other reasons for the maintenance of a status quo in "narrow jobs" were: opposition from the operators themselves, traditional management philosophy and functional demarcations.

The main results of the qualification analysis were to point to a need for developing training offers to take account of likely job developments for the group of operators and, secondly, in the specific enterprise, to create a connection between participation in training and job development. The Danish Plastics Industry's CVT Committee participated in thorough discussions on the establishment of a training programme within the AMU framework which was aimed at operators who would otherwise not receive any training.

The main idea was to test and demonstrate how participation in the courses mentioned could lead to job development. The employees of two enterprises at which new courses were piloted were to go through training during which they would alternate between course participation and work. The possibilities for job development for the operators were very similar: the taking-over of single functions at the machines, typically single installers' or repairmens' functions; increase of participation in quality control and increased interaction with the quality department; and participation in the daily planning of work.

It was underlined that job development can assume various shapes: participation in several job functions, for instance simple error correction jobs and quality control jobs; improved interaction between different groups, for instance installers, repairmen and quality controllers on the localization of faults, quality evaluation and quality assurance, etc.

Barriers had to be overcome in both enterprises.

- the operators were not convinced that the installers and electricians would let them take over new functions and give them proper training;
- not all installers and electricians were fond of, or at ease with leaving certain functions to the operators;
- the operators were not sure that they could cope with the changes.

For the operators, however, the project also meant that they had to give up some benefits in order to obtain others. On the one hand, a result of the changes of work in connection with the project was more varied and satisfying jobs and, last but not least, a reduced risk of being sacked as a result of automation, but, on the other hand, the breaks that previously occurred when waiting for an installer or electrician have now disappeared. It is no longer acceptable to remain passive when a fault occurs. Now, the operators have to try to correct it. The project described here confirms that coordinated efforts with course participation and job development do pay off for the enterprises as well as for the individual employee.

The enterprise's time and money investments in systematic training planning, from the preparation stage to the follow-up after the courses are rewarded in terms of: less time wasted on machines; quicker reaction to faults in production; percentage of errors goes down; and quicker running-in of new products. Through training the employees gain: increased self-confidence; increased earnings; desire to learn more; improved collaboration; and a feeling of being taken seriously.

It was especially stressed that older employees with little schooling, who were initially very worried about their ability to manage, turned out to have a very positive experience in finding out that, of course, they could manage both the courses and the development in their jobs. And by doing so, the risk of losing the job was reduced quite a bit. In addition, the project shows that course participation alone is not everything. The enterprises themselves play a very important role ensuring the benefits of the investments in training.

The demonstration project was documented in a report which the social partners of the sector helped to spread in the Danish plastics industry.

Other labour market organisations involved in VET research

The full version of this report presents information about the roles of the following players in research and trends anticipation: the Confederation of Danish Industries (DI), the trade unions, the education funds, and the "SUM secretariat" (see below).

Through its vocational education and training committees, the Confederation of Danish Industries brings together high level managers from companies in all manufacturing sectors who report on enterprises' need for adequately qualified personnel. The DI published a booklet in 1995 titled "Industry and education - a competitive education system" which considers new qualificational demands required as a result of industrial change.

Employers and trade unions in the manufacturing sector established the Strategic Development of Employees (SUM) planning scheme in 1991. The method was first applied to CVT planning. A secretariat is responsible for the running of the SUM method on a franchise basis, with consultants, primarily based at technical and commercial colleges and AMU centres, disseminating the method to enterprises which purchase the tool. The central location of the secretariat in this procedure makes it possible to use information from the many individual users as an aggregated input providing further indications of potential shifts in vocational qualifications. The SUM secretariat covers the areas of several sector-specific CVT committees and coordinates activities so as to prevent committees from "re-inventing the wheel".

Industrial Sociological Qualification Analysis – some key points

As described above, the most widely used method for forecasting shifts in trades and vocational qualification is the direct dialogue between the VET/CVT committees and spearhead enterprises.

Standardized forecasting instruments do not exist. Nevertheless, a long series of studies of future skill needs resulting from industrial change have been conducted. Such studies, conferences, future workshops, etc, are usually tailor-made for the concrete issues and are consequently not easily categorised. Key aspects of the industrial sociological qualification analysis method, which has been used by many VET and CVT committees in the last decade are considered ad scetched briefly hereunder:

- Development: ISQA has its roots in German traditions of industrial sociology;
- Sectors applied: It has been used in many different sectors, eg CNC machine tools in the metal industry, electronic industry, clothing industry, plastics industry, road transport, cleaning services;

- Elements of industrial change which the method incorporates: It is open for any kind of industrial change. In practice, the starting point has mostly been technological change;

- Level of future-orientedness: method is oriented towards major industrial changes, and is therefore medium- or long-term oriented;

- Type of research: qualitative;

- Short description of the procedure: personal interviews with managers, shop stewards and employees in 10-15 spearhead enterprises which illustrate the future of the sector in general; workplace observations combined with interviews of employees at work, especially in the most advanced work functions; examination of work organisations in use, compliance with the demarcations lines between trade unions.

- Type of results: two main types of results - i) a description of the division of labour in the spearhead enterprises which point at many different ways of work organization, and reasonings about these questions: Why are narrow or broader jobs in use, and are there reasons to change them? ii) a detailed list of concrete qualificational demands in terms of "process-dependent qualificational demands" on various levels;

- Funding: the development of the instrument and current adjustments have been/are financed by DTI.

- Databases and sources: management, shop stewards end individual employees in the 10-15 spearhead enterprises, additional interviews with key personnel;

- Implementation of the results: implementation is up to the CVT/trade committees responsible. Normally, results are implemented by several means - establishment of new CVT courses or schemes, adjustment of existing courses, etc;

- Efficiency of the instruments (costs vs. results, etc): The use of the instrument is rather costly, but it is effective.

Evaluation of policies, tools and instruments in use in Denmark

The absence of a central planning bureau, or any coordinated, national monitoring system for monitoring employment trends, makes it difficult to conclude that anticipation policies, tools and instruments in Denmark are up-to-date in an international sense. Nevertheless, the variety of different instruments for forecasting in use and the multiplicity of research institutes and private consultants acting in the field promotes a dynamic flexibility in the way that forecasting instruments and information tools are developed.

So far as it affects VET anticipation research, the Danish system of social partnership between different government bodies, employers' associations and trade unions has positive characteristics: a system of checks and balances between different interest groups has operated for decades, based on the principles of tripartite co-operation, strong organisations on both sides of industry and collective agreements. This model has ensured that representatives of employers' associations as well as trade unions are included in relevant working parties, committees, regional and national labour market boards, research projects etc. The focus has been on the effects of industrial change on employment and labour market balances, eg unemployment and skills mis-match problems.

The policy of the Ministry of Labour and its associated institutions is based on a "supply side" approach; other major institutional interests are more focused on the analysis of trends and needs as regards the demand side of the labour market. These interests are primarily represented by the Ministry of Business and Industry and its associated institutions, and the Ministry of Finance, which has shown a growing interest in this approach.

Currently, none of these groups has won the upper hand when it comes to influencing anticipation policy but the traditional emphasis on the supply side action seems to get increasing competition from a number of demand side actions. This is especially the case when it comes to facing the increasing employment problems of unskilled labour.

Overall, it has to be concluded that initiatives have been few, simple and unsophisticated. The tools and instruments used have usually had a short-term outlook (1-3 years at best). A large effort has been put into describing and analyzing the ways in which to prevent under-employment from turning into long-term unemployment and social exclusion problems. Civil servants, trade union researchers and various employers' associations as well as consultants from private consulting companies and from universities and technical colleges have been involved. But unsettled disputes about policy priorities has meant that research has often been unco-ordinated.

However, some recent initiatives have been more sophisticated; examples are the IDA database and similar inputs which provide information about structural changes in employment patterns, job creation and job destruction; the analytical work of the Welfare Commission which raised awareness of the structural problems of unskilled labour, etc.

The quest to improve the planning systems of the labour market authorities and the improvement of the monitoring system of the Regional Labour Market Councils have been further positive developments, addressing both the supply and the demand side of the labour market.

Despite the qualifications made above, therefore, social dialogue on labour market issues and vocational education and training in Denmark is well developed. There are divergent opinions - on the financing of continuing vocational training, for example. But there is comprehensive supervision of VET and labour market research by bipartite or tripartite institutions which allows direct contact between all interested parties involved in regional labour market policy work as well as in the development of CVT on a national level.

As far as qualitative work on vocational qualification trends is concerned, this tight relationship and easy access to enterprises, including the "spearhead enterprises" which show the way forward to others, probably explains why there has been no need for nationally recognized forecasting instruments. The current arrangements seem to work well (courses are adjusted, new courses are developed, etc) although the arrangement has its natural limits, certainly in respect of its short-term perspective.

Abbreviations

ADAM	Annual Danish Aggregated Model of the Danish Statistical Bureau
AE	Economic Council of the Labour Movement
AF	Public Employment Service (PES), within EMS
AMS	Directorate General for Employment, Placement and Vocational Training (Ministry of Labour)
AMU	Adult Vocational Training and Education System
DA and DI	employers' organisations
DØR	Danish Economic Council
IDA	Integrated Data Base for Labour Market Research of Danmarks Statistik
LAR	National Labour Market Council (NLMC)
RIMO	Regional Iterative Model administered by Danmarks Statistik
RLMC	Regional Labour Market Council
SMEC	Simulation Model of the Economic Council
SUM	Strategic Development of Employees planning method.

4. Germany

Peter-W. Kloas

The main vocational training system in Germany is a "dual" system, the origins of which date back to the 19th century. The term "dual" describes training on the job and at a vocational school. Until the Vocational Training Act was passed in 1969, dual vocational training in Germany was regulated only in certain fields or as an independently managed function in the training industry. This created a set of detailed rules, which emphasises and promotes public responsibility in vocational training and offers groups in society who have a particular interest in training (in particular, employers and employees) opportunities to influence and help shape it. After the Act was passed, the Federal Institute for Vocational Training and the Federal Institute for Employment's Institute for Labour Market and Occupational Research were founded. The two research institutes were given the task (among others) of researching occupational change at national, regional and sectoral level and implementing systematic research into skills. Hitherto the relevant tasks had been undertaken only sporadically and only for some parts of the employment system, by different players (e.g. professional associations). Together with the personal experience of members of vocational training bodies, the results of the systematic research into occupations and skills are the most important basis for identifying new or changed competences, leading to the modernisation of vocational training courses or the development of new ones.

The role of the state and the social partners

The changes in skills required from employees triggered by technological, economic and social change are normally initially covered by further training. Only when these changes have made a sufficient impact within enterprises are the rules on the content of training courses amended to take account of them. In this context, a clear trend towards "de-specialisation" or generalisation of training has been apparent in recent decades.

In the 1970s the dual system covered almost 600 occupations, a figure now reduced to 356. Preparation for narrowly defined fields of activity has been replaced by broad-based occupational skills training. This development indicates the change from the concept of a job for life to that of vocational training as an entrée into working life as well as lifelong learning.

Under the Vocational Training Act, employers and trade unions apply to the Federal Government, as the regulatory authority, for new training occupations. The Federal Government then commissions the Federal Institute for Vocational Training to draw up a description of the new occupation, with the assistance of experts in the field.

The development process for training occupations can be divided into eight stages[13]:

1. Initiative phase
2. Research phase and drafting of training regulations
3. Laying down of core values for the training regulations

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[13] See diagram.

4. Drafting and coordination of training regulations and of a framework syllabus
5. Implementation of the training regulations/framework syllabus
6. Informing the public
7. Assistance in translating the training regulations into practice
8. Evaluation

Stage 1: The initiative for modernising a training occupation or creating a new one normally originates from professional associations and central organisations on the employers' side, from the trade unions, or from the Federal Institute for Vocational Training. After hearing those concerned, the competent Ministry (usually the Federal Ministry of Economics) decides in agreement with the *Länder* on the start of the procedure for new regulations. The Federal Institute for Vocational Training submits an advisory opinion on this decision or, especially in the case of major reform projects, carries out a research project.

Stage 2: The research and drafting phase is aimed at clarifying whether a training occupation should be modernised or a new one created, or whether an occupation can be dropped. If an occupation is to be modified or a new one created, draft training regulations are drawn up. In the clarification and drafting phase, use is made of existing findings from research into skills and occupations, or the Federal Institute for Vocational Training carries out a specific research project. The research focuses on the following steps: *Problem analysis* (Collection of data on technological, economic and social trends; Analysis of the employment and training situation; Development of a hypothesis on changes/trends); *Case studies* (Investigation of typical workplaces; Case studies which support the hypothesis); *Analyses of activities* (Development of the survey tool/questionnaire; Preliminary testing; Identification of the sample; Evaluation; Definition of occupational requirements); *Drafting the training regulations* (Job title/ profile; Organisation of training content; Formulation of examination requirements).

Stage 3: The "core values" of the training regulations are established in conjunction with the competent Ministry. If the participants are in agreement and following a decision accordingly by the Federal/*Land* Coordination Committee, the Federal Ministry competent in the field, by agreement with the Federal Ministry of Education and Research, instructs the Federal Institute for Vocational Training to continue its work. The core values relate to: the job title (as a working title); the duration of training; allocation to an occupational field; organisation and structure of the training course; the list of skills/competences to be imparted; the training timetable; the possible need to eliminate occupations regulated in the past.

Stage 4: In the drafting and coordination phase, training regulations and framework curricula suitable for implementation are drawn up and coordinated. The Federal Institute for Vocational Training asks the central employers' and employees' organisations to nominate experts in the field who, as national experts, advise the Institute on drawing up draft training regulations. In parallel with this, *Land* experts draw up a draft framework curriculum for teaching in vocational schools. The national and *Land* experts hold a joint meeting for final discussion and coordination of the two drafts. The agreed draft of the training regulations is submitted to the standing committee of the Federal Institute for Vocational Training, whose members represent employers, employees, the Federation and the *Länder*. Approval by the committee simultaneously constitutes a recommendation to the Federal Government to implement the training regulations.

Stage 5: Finally, the Federal/*Land* Coordination Committee for training regulations/framework curricula adopts the new training regulations and the new framework curriculum. The training regulations are implemented by the competent Federal Ministry in agreement with the Federal Ministry of Education and Research. The framework curriculum is adopted by the individual *Länder* or translated into *Land*-specific curricula for vocational schools.

Stage 6: The training regulations are published in the Federal Law Gazette and, together with the framework training programme and a training profile in three languages, in the Federal Bulletin, and are included in the list of recognised training occupations. The Federal Institute for Labour, the Federal Institute for Vocational Training and the Federal/*Land* Committee for Educational Planning and Research Promotion (BLK) make further information on all recognised training occupations available, namely job requirements, training content, employment opportunities and further training options, in specialised careers publications and on the Internet. Statistical data are also compiled on newly concluded training contracts and developments in the individual occupational fields.

Stage 7: Enterprises and vocational schools are responsible for putting training regulations into practice. To support this process, the Federal Institute for Vocational Training offers assistance with implementation, such as: notes on new training regulations (specific information for trainers, trainees and teachers in vocational schools on the subject of structuring everyday training and assuring training quality); media, teaching and learning resources (teaching guides, course materials, etc.); seminar notes for trainers (further training); subject-based support for pilot schemes to test and disseminate innovative approaches.

Stage 8: In the case of processes involving radical new regulations, e.g. in IT occupations, an evaluation procedure is normally agreed among those involved. The Federal Institute for Vocational Training then scientifically evaluates experience associated with the introduction of new training occupations. One of the aims is to answer questions regarding the coherence of the job profile and its acceptance in practice.

The sequence of processes described makes it clear that in Germany responsibility and competences for vocational training involve a variety of reference points and are, in a number of cases, interlinked, partly because of the State's federal constitution and the dual training principle. Training regulations can expect to be well accepted by enterprises and trainees only if they are drawn up with the consensus of all concerned. Sound information on the change in occupational requirements and the need for new skills helps to speed up this process of achieving consensus and prevents mistakes being made.

Assessment of current methods

The process of modernising (further) training occupations is an ongoing responsibility. The work tasks and skills requirements in traditional fields of activity are also continuing to show lasting changes, e.g. as a result of revamping of activities, a reduction in hierarchical levels, or outsourcing and transfers of production. New fields of employment are also emerging in the service sector, with little tradition of training (as yet).

In past years some people have severely criticised the duration of the procedure for new training regulations, which frequently took several years. Delays were usually due to problems in the process of creating consensus as regards the training regulations' "core values" among the employers' and employees' central organisations, and not to problems in the drafting phase.

As a result of the training crisis which began in the early 1990s, there was enormous pressure to take action, to update training occupations as quickly as possible, and to create new ones. The aim was that if training places were not available, it should not be just because no suitably updated and newly developed job profiles existed, even though enterprises needed the relevant skills and employees.

In the past three years, therefore, some 70 training occupations have been modernised and nearly 30 completely new occupations created, using a rapid processing and coordination process.

However, the accelerated procedure has also demonstrated a number of defects associated with inadequate basic information on new skills/competences. In many cases, there was not enough preliminary research to provide topical information on the current skills requirement for the procedure for new training regulations. In particular, there was no information on development processes in employment fields that have only recently come into being on the labour market and thus (as yet) possess none of the usual structures in terms of associations and representation of interests. Another problem lies in the fact that empirical analyses of the skills requirement were either interpreted too generally to regulate occupations (i.e. they could verify only general structural changes) or, conversely, they were too occupation-specific and may have failed to take account of occupational interfaces and related occupations. Detailed analyses of the concrete skills requirement, covering whole fields of employment, were a rare exception.

Recommendations for the further development of tools and instruments

In future it will no longer be sufficient to undertake modernisation of training and further training occupations on a reactive basis, with the time lapse this involves. Changes in skills requirements must be recognised as soon as they come into being if the vocational training system is to offer timely and effective support for organisational, technical and structural change and for the transition to the service and information society.

On the initiative of the Federal Ministry of Education and Science, an *"early recognition system for skills trends"* was therefore established in 1998, involving the German Trade and Industry Foundation for Vocational Training and selected research institutions, in addition to the Federal Institute for Vocational Training. At the same time, the Federal Ministry of Economics, as the Ministry normally responsible for issuing new training regulations, established a "monitoring round", in which it discusses new skills trends and their consequences for future training occupations with the social partners.

A total of nine organisations (including the Ministry and the network coordinator) are currently (March 1999) involved in the early recognition system network, which sets out to highlight modified and new skills requirements as they come into being:

BMBF	Federal Ministry of Education and Research
DLR	Labour and technology" project agency
BIBB	Federal Institute for Vocational Training
IAB	Institute for Labour Market and Occupational Research of the Federal Institute for Employment
FhIAO	Fraunhofer Institute for Labour and Organisation
Infas	Infas Sozialforschung GmbH
ISW	Institute for Structural Policy and Promotion of the Economy
KWB	German Trade and Industry Foundation for Vocational Training
WZB	Scientific Centre Berlin.

Early recognition network

The organisations involved in the early recognition network are currently working on eleven different projects:

Federal Institute for Vocational Training

Analysis of job advertisements: the aim is to evaluate annually approximately 50,000 job advertisements appearing in print and on-line media, in order to establish detailed requirements for the various fields of activity and their changes over time. In a pilot project in 1997, about 4000 advertisements were standardised and subjected to an analysis of their content, supplemented by a telephone survey of the enterprises placing the advertisements. Job advertisements reflect the skills requirements for the future. Analysis of advertisements is thus particularly useful for identifying new occupational requirements, new job profiles, additional skills required and offers of further training available.

Survey of reference enterprises: around 1500 enterprises have been incorporated into the reference enterprise system, regularly used by BIBB for representative short-term surveys on topical training and further training issues. The enterprises are asked, among other things, about changes in skills in the wake of process, product and organisational innovations. BIBB also identifies changes to existing training regulations that the enterprises consider to be necessary.

Research into regional further training programmes: institutions providing further training are surveyed on the subject of new skills programmes and their regional significance. By surveying further training providers and through supplementary evaluation of further training programmes and databases, it is possible to collect important data on skills trends and newly emerging skills profiles. These skills profiles derived from further training may also offer indications of new training occupations or training occupations in need of modernisation.

Research into the skills programmes of technical colleges and technical universities: this study undertakes a more detailed analysis of skills requirements not met by the dual system, in order to draw conclusions for training options that may need to be identified in the dual system.

Testing of an early recognition system for skills requirements in innovative fields of employment: this project is investigating the question of how new skills requirements come into being outside established areas of training, and how information could be compiled to facilitate ongoing monitoring of trends. This pilot study is covering the fields of health/social affairs and education.

Development of an information system: in addition to a *report on skills structures* relating to general trends planned for publication at intervals of several years, a regular *skills report* containing detailed findings is published. At the same time, essential findings of all empirical studies on skills trends are made available on the Internet (*skills trends online*). For the report on skills structures in particular, the Federal Institute for Vocational Training works closely with the Institute for Labour Market and Occupational Research.

Fraunhofer Institute for Labour and Organisation

Development of a process for ongoing monitoring of skills developments in the workplace, aimed at early recognition of changes in work and within enterprises: the research focuses on case studies, in which full details of job activities and the associated work systems and business processes are described.

Infas Sozialforschung GmbH

Skills trends in the service sector: regional case study of skills requirements in small and medium-sized enterprises active in particularly dynamic markets (software development and sales, Internet services, advertising, specialised trade in information and communications technology, etc.).

Institute for Structural Policy and Promotion of the Economy

Identification of skills trends as a basis for early recognition of skills developments: on the basis of regional analyses, enterprises that act as trendsetters in their sector or region by virtue of their products and are therefore conscious of new skills requirements well before their competitors are selected for cooperation. At the same time, skills requirements are drawn up, arising primarily from the use of landmark technologies.

German Trade and Industry Foundation for Vocational Training

Utilisation of the network of trade associations and chambers for early recognition of new skills requirements: in the chambers and trade associations, over 1000 experts from trade and industry (in particular, training and further training consultants and technology and management consultants) are in direct contact with enterprises. These consultants will be asked about enterprises' skills requirements. Another survey group comprises vocational training experts organised into working parties of commercial and industrial/technical training managers.

Science Centre Berlin

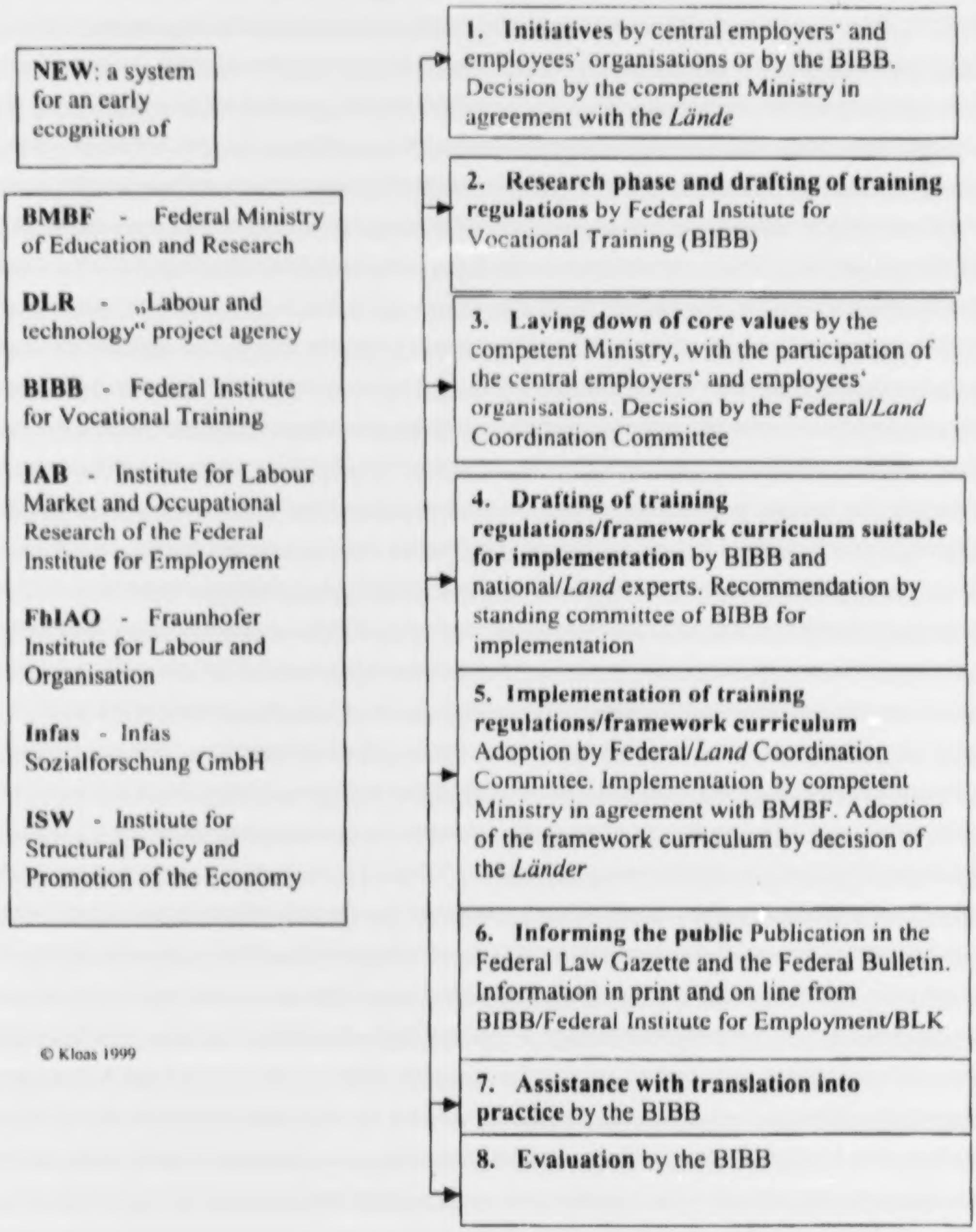
International comparative study: this sets out to identify the skills requirement in the OECD countries, including the Federal Republic of Germany. The comparative research is based on the perspective of the labour market at the transition point between vocational training systems and employment. The project will investigate both findings as regards content, for example in which industrial or service occupations there is a need for particular skills, and methodological aspects, i.e. how findings are obtained and what institutions are involved, on the basis of a comparative framework.

It is generally agreed, that the information obtained in the individual early recognition projects must be brought together by integrating the projects so that the information takes on a *manageable* form for the players responsible for the structuring process. The Federal Ministry of Education and Research is planning a workshop for June 1999, at which the individual projects will be reviewed from a cost/benefit perspective, as regards continuing them, and consideration will be given to providing the information obtained in a way suitable for users. At the same time, the intention is to collect proposals for fields of activities notable for particular effects as regards innovation and employment, on which future investigations should therefore focus.

Abbreviations

BMBF	Federal Ministry of Education and Research
DLR	"Labour and technology" project agency
BIBB	Federal Institute for Vocational Training
IAB	Institute for Labour Market and Occupational Research of the Federal Institute for Employment
FhIAO	Fraunhofer Institute for Labour and Organisation
Infas	Infas Sozialforschung GmbH
ISW	Institute for Structural Policy and Promotion of the Economy
KWB	German Trade and Industry Foundation for Vocational Training
WZB	Scientific Centre Berlin.

Main instruments/tools, relevant players, levels of information and impact on VET systems



NEW: a system for an early ecognition of

BMBF - Federal Ministry of Education and Research

DLR - „Labour and technology“ project agency

BIBB - Federal Institute for Vocational Training

IAB - Institute for Labour Market and Occupational Research of the Federal Institute for Employment

FhIAO - Fraunhofer Institute for Labour and Organisation

Infas - Infas Sozialforschung GmbH

ISW - Institute for Structural Policy and Promotion of the Economy

1. **Initiatives** by central employers' and employees' organisations or by the BIBB. Decision by the competent Ministry in agreement with the *Lände*
2. **Research phase and drafting of training regulations** by Federal Institute for Vocational Training (BIBB)
3. **Laying down of core values** by the competent Ministry, with the participation of the central employers' and employees' organisations. Decision by the Federal/*Land* Coordination Committee
4. **Drafting of training regulations/framework curriculum suitable for implementation** by BIBB and national/*Land* experts. Recommendation by standing committee of BIBB for implementation
5. **Implementation of training regulations/framework curriculum** Adoption by Federal/*Land* Coordination Committee. Implementation by competent Ministry in agreement with BMBF. Adoption of the framework curriculum by decision of the *Länder*
6. **Informing the public** Publication in the Federal Law Gazette and the Federal Bulletin. Information in print and on line from BIBB/Federal Institute for Employment/BLK
7. **Assistance with translation into practice** by the BIBB
8. **Evaluation** by the BIBB

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5. Greece

Theo Papatheodossiou

Five different agencies are involved in studying qualifications trends and/or related VET developments in Greece. Forecasting instruments are under development by the National Employment Observatory (EPA) but there is no central co-ordination. Central co-ordination of forecasting activities might solve problems arising from the fact that both the ministry of education and labour have similar responsibilities in the VET area.

Introduction

Within the framework of the Leonardo da Vinci (LdV) programme, begun in 1995, the Institute of Technological Education was entrusted with the production of a report on the methods and tools for anticipating qualifications and adapting vocational education and training systems in Greece.

LdV aims at developing a closer relationship between the Community vocational training policies and human resource development, and hopefully boost industrial competitiveness and research. To do this, LdV provides for: transnational pilot projects; transnational projects on placements and exchange; and development of knowledge in the field of vocational training. The last-mentioned involves Community-level forecasting activities of various types (of qualifications, types of apprenticeship, investment in training, statistics, funding, etc).

Recent re-organisation of education and VET

The formal vocational education system was established by a number of regulations from the 1980s onwards. The multiple types of schools (General Lykeia, Religious Lykeia, Technical Vocational Lykeia, Multidisciplinary Lykeia) presented many disadvantages, including structure and shortages of competent staff. The "parallel" education system meant that nine out of ten pupils were coached at private institutes in order to prepare for entrance examinations at an annual cost of GRD 300,000. to GRD 1 million.

Recent educational reforms have replaced all Lykeia by the Unified Lykeio. Technical Vocational Schools (TEE) have replaced Technical Vocational Schools (TES) for those who do not wish to go into higher education. Studies last for three years and are offered in two cycles that include various sectors and specializations (17 new study sectors have been set up at the TEE). On completion of the first cycle, a level 2 degree (of the European Union) is awarded and a work licence can be acquired and/or studies be continued in a corresponding specialization in the second cycle, or students may enrol in the second class of Unified Lykeio. Completion of the second cycle is followed by a level 3 degree (of the European Union), a work licence, and/or enrolment in the IEK (Institutes of Vocational Training). Students may be admitted to higher education following a selection process, but admission into the TEI (Technological Education Insitutes) has not been finalized yet.

Those who have completed compulsory education may undergo initial vocational training at the Apprenticeship Schools under the supervision of the Workforce Employment Organization (OAED).

Reform of higher education aims at enlargement, with a rise in numbers of admissions to 85,000. Forty-eight new Specialization Departments with modern subjects have been founded. Dozens of new specializations have been introduced into the IEK, their curricula modernized and modern equipment purchased.

The recent reform aimed to simplify the system, offer technical vocational studies and avoid student emigration to higher education institutes abroad. The process of selection takes place within the second and third class of Lykeia.

It appears that the main targets of the reform have been met despite strong opposition and fears that "parallel" education system will increase rather than decrease. Matriculation into higher education will be implemented without great difficulties and student emigration abroad is expected to be limited to those attending post-graduate studies.

The curricula of studies at the apprenticeship schools of OAED will be similar to those of TEE. The IEK will be upgraded, informal training will be organized at the Centres of Vocational Training supervised by the Ministry of Labour.

Schools for Tourism, Nursing Schools, Nautical Lykeia, and Higher Public Schools for the Merchant Marine (ADSEN), Centres of Agricultural Training (KEGE) started operating under the auspices of their respective ministries. The whole system was finalized by the establishment of the Technological Education Institutes (TEI). Ten Centres of Liberal Studies also supply informal vocational training, under the supervision of the Ministry of Trade.

Additionally, the National Centre for the Accreditation of Continuing Vocational Training Structures and Supporting Services (EKEPIS) was set up in 1997, its aims being: a) the establishment, promotion and implementation of a national system of accreditation; b) the harmonization of the initial and continuing vocational training systems; c) defining the preconditions and criteria for accreditation; d) determining the prerequisites for the operation of informal training bodies, e) facilitating the successful implementation of the Second Community Support Framework targets in Greece.

Law 2434/96 also provides for funding companies and co-operatives that organize their own vocational education and training projects for the unemployed, the long-term unemployed, the young, and those at great risk of social exclusion.

Organisations involved in VET

Many organisations are involved co-ordinating, guiding, supervising the vocational education and training system. These are:

a) The Institute of Technological Education (ITE)

ITE promotes technological education and undertakes research activities. It has decision-making powers. It is part of the Ministry of Education and Religious Affairs and is administered by a President and seven-member Scientific Council. The members are appointed by the Minister following nominations by the Technical Education Council that consists of representatives of the finance ministry, social partners, TEI graduates' trade unions, political parties, political youth movements and the Presidents of TEI. It is presided over by the Minister of Education or the Deputy Minister.

ITE performs research studies on technological/technical education and training and has conducted dozens of research studies on the labour market and educational programming, some of them dedicated to skill shortages, skill demand etc. These use questionnaires, interviews and evaluation of the existing bibliography. In addition, a simulation model and data from classified advertisements of the daily and periodical press were used. The comparative method is also used i.e. the Greek labour market is compared with corresponding ones of the more advanced EU Member States.

b) National Institute of Labour (EIE)

It is supervised by the Minister of Labour and Social Security, and is administered by a President and Administrative Council that consists of representatives of the Ministry of Labour and Social Security, the Ministry of Education and Religious Affairs, OAED, the Confederation of Trade, the Confederation of Arts and Crafts, the Federation of Greek Industries and the Greek General Confederation of Labour.

The principal functions of the Institute are: a) research into labour matters; b) research into the Greek labour market, in particular skill shortages and demand; c) monitoring informal vocational training structures and making recommendations for their improvement; d) organization, funding and delivery of training projects; e) evaluation of ESF activities in Greece; f) provision of technical assistance to other agencies; g) establishment of a database; h) development of co-operation between national, European and international labour agencies.

It has conducted research into labour matters, skill shortages/demand, linking of education and training with production, and projects on training and employment, including the co-ordination of Community programmes such as FORCE and EUROTECNET and currently, LdV. It organizes workshops, carries out field studies and evaluates articles, publications and conference findings. Questionnaires, interviews used in field studies, and proposals submitted for funding are some of the tools used.

c) Institute of Labour - Greek General Confederation of Labour (INE/GSEE)

Informally founded in 1990 and formally in 1992, the purpose of INE is to support trade unions in matters within their scope such as: research studies into labour matters, documentation of GSEE's positions, provision of special courses to unionists of primary and secondary level and finally, delivery of vocational training to employees. It is administered by a presiding board and an Administrative Council which are appointed by GSEE for a three-year term of office. It is a political organ and its members are unionists. Consistency and reliability are supplied by a Scientific Council. As of 1998, employees of the public sector who are represented by the Confederation of Civil Servants (ADEDY) have been included in the Institute's activities.

Members of the INE participate in tripartite agencies (employees, employers, state) e.g. in OAED committees, in Organization for Vocational Education and Training committees formed to define specialization and social exclusion projects.

It has also conducted, and participated in, training projects for the (un)employed and research into training issues and carries out field studies on labour market issues. The trade unions are the tools for gathering information at local, regional and national level. Questionnaires and interviews are the tools used in research studies.

d) Organization for Vocational Education and Training (OEEK)

OEEK was founded within the framework of ESEEK which monitors changing labour market needs, economic and social conditions in Greece at national, regional and local level, and technology development in close co-operation with the social partners, public and private bodies at national and international level. It aims at: a) the organization, development and delivery of vocational training, b) formal accreditation of vocational training, c) aligning vocational training with the educational system, and d) the execution of national and Community vocational education and training projects.

OEEK offers formal vocational education and training and is exclusively responsible for the Institutes of Vocational Training (IEK), whether public or private. It is administered by an eleven-member Administrative Council appointed by the Minister of Education that consists of the President, Vice-President and representatives of the various ministries and social partners, who also participate in tripartite advisory committees that are responsible for labour market monitoring.

It carries out field studies through its Research Department and Training Department. Moreover, by the establishment of tripartite advisory committees (TSE), it has developed an information network of quantitative and qualitative market tendencies which monitor labour markets at local, prefectural and regional level by investigating economic activities, demographic changes, labour market saturation and the dynamics of the region.

Labour market tendencies as determined by TSE are used in determining the specializations of Vocational Training, which in turn are determined by their own recommendations to OEEK. After investigating the evolution and changes of institutions, OEEK proceeds to the realization of activities concerning education/training and the labour market.

e) National Employment Observatory (EPA)

EPA was founded by Ministerial Decision and is self-administered. It is supervised by OAED and its Administrative Council consists of state representatives and representatives of employers and employees.

Analysis of the labour market is EPA's main aim, supported by a fully computerized labour market analysis system. Its most important activities are to a) supply technical assistance to OAED and the Ministry of Labour and Social Security, b) develop the computerized system of mapping/documenting the current labour market situation and its tendencies further, c) carry out field studies, especially on skill demand d) plan and implement pilot training projects in co-operation with OAED, e) work out an assessment system of Community projects, f) introduce a single methodology in analysis, research and forecasts, g) disseminate the accumulated information, and h) establish a bibliography database.

EPA's main sources of information are the National Statistical Service (ESYE), OAED and the Ministry of the National Economy. It evaluates the data, coupled with questionnaires and interviews, and records the findings in a database. A recent activity of EPA is a project called "Developing a methodology of skill anticipation" which will be used for short-term forecasts of labour market basic figures.

How findings are evaluated/transferred.

a) *ITE.* The findings of the Technical Education Institute are used in working out the curricula of the TEI, which is ITE's responsibility. Additionally, the institute has published monographs which have been sent to dozens of recipients involved in vocational training and educational matters.

b) *The National Institute of Labour (EIE).* Project evaluations submitted for funding to EIE (and research studies it carries out) are used to formulate policies to combat unemployment.

c) *INE/GSEE.* Findings are used to reinforce arguments of trade unions, are taken into consideration in the implementation, modification or approval of training schemes undertaken by the trade unions or the Institute itself.

d) *OEEK.* The systematic evaluation of information assists in developing proposals for new specializations, terminating old ones, and formulating training projects.

e) *EPA.* Research studies are sent to recipients involved in vocational education and training.

Assessment and concluding remarks

A series of methods and tools for indicating qualitative and quantitative differentiation in labour market specializations exist. Their effectiveness is known and their speed in data gathering depends on the existing system. The bureaucracy involved in organizing training projects does not permit rapid evaluation of the findings and their integration into training schemes.

The aforementioned agencies act independently with no central co-ordination. There is a need to establish a central co-ordinating organ, a difficult task given that two ministries - education and labour - have similar responsibilities/spheres of action in the field of training projects.

Matrix of research findings

SUBJECT	METHODS, TOOLS AND INSTRUMENTS FOR ANTICIPATING QUALIFICATIONS / COMPETENCIES **AND ADAPTING VET SYSTEMS**
INVOLVED BODIES	1. Institute of Technological Education (ITE) 2. National Institute of Labor 3. Institute of Labor / Greek General Confederation of Labor (INE/GSEE) 4. Organization of Vocational Education & Training (OEEK) 5. National Employment Observatory (EPA)
METHODS	Experience approach methods, field studies, comparative studies, evaluation of sub-projects and applications for funding, evaluation of studies carried out by other agencies, evaluation of seminar/workshop/conference findings, information gathering from trade unions and other agencies, establishment and operation of information networks
PROCEDURES	Data elaboration on experience basis, simulation models, evaluation of questionnaires, interviews and findings
TOOLS/ INSTRUMENTS	Questionnaires, interviews, research studies, networks, three-part committees at local and prefectural level, data derived from the National Statistical Service, Ministries etc
USE OF THE FINDINGS	Within the context of planning/introducing the content of studies and curricula of vocational education & training, in transferring the gathered information to other agencies, in providing assistance to decision-makers involved in the linking of education/training with production and in more general sense educational programming

6. Spain

Núria de la Fuente Teixidó

Administrative powers relating to education and employment in Spain are shared between central government and the Autonomous Communities. Vocational education and training are provided by three sub-systems in Spain: regulated vocational training, undertaken by the education authorities; job training, which is the task of the labour authorities, principally the Ministry of Labour and Social Affairs and the National Employment Institute (INEM); and continuing training, which is managed and co-ordinated by the the Foundation for Continuing Training (FORCEM), comprising all the national social partners, under the control of the National Employment Institute (INEM) and with the collaboration of a wide range of partners including companies, training management centres and the social partners.

Reform of vocational training was begun by the General Council for Vocational Training set up in 1986. This now encompasses the State Government, the social partners and the Autonomous Communities. It is responsible for the second ('new') National Vocational Training Plan (1998-2000), which has as one of its basic objectives the consolidation of an integrated vocational training system structured on the basis of the three sub-systems summarised above. Implementation of the plan, including the establishment of links between the sub-systems, is the task of the National Institute for Qualifications, set up in March 1999. This has the function of determining, accrediting and monitoring the development of qualifications, their integration into the relevant sub-system and the evaluation of the national system of qualifications. This consists primarily of vocational training qualifications (relating to the regulated vocational training sub-system) and Certificates of Professional Competence (relating to the job training sub-system).The National Institute is in turn to be assisted by a Vocational Observatory, a tool to collect, co-ordinate and transmit information from smaller observatories to be found in diverse geographical areas.

Great steps forward have been taken since the introduction of the first National Vocational Training Programme between 1993 and 1996, and the rigour present in the analysis and approach used for the development of the vocational training plans of the autonomous communities of the Basque Country and Andalusia merit special mention.

History of the Spanish VET system (1960-1999)

From the 1960s until the creation of the National Employment Institute (INEM) in 1978, the Ministry of Labour was responsible for training initiatives outside the school environment. This role was taken over by INEM which from 1981 began to subcontract its training activities to private companies and other bodies.

The economic crisis in Spain in 1982 led to a major shift in policy as regards job training schemes. The EC-funded Plan de Formación e Inserción Profesional (FIP) was aimed at large numbers of unemployed and in 1990 vocational training workshops (Escuelas taller) were set up to provide training to the unemployed under 25, combining vocational training and work experience.

In the area of formal, regulated vocational training, major reforms were made in 1990 following implementation of the framework law concerning the education system (Law 1/1990, Ley Orgánica de Ordenación General del Sistema Educativo, LOGSE). This set out a framework for a new model of vocational training, one which integrates the training systems, ie links with the job training and continuing training sub-systems for the first time. The LOGSE framework law introduced the concept of basic (ie initial) vocational training: providing the overall technical skills and know-how relevant to a broad range of professional profiles at the intermediate and upper levels of vocational training. Training schemes providing these new qualifications must take as their reference point the skills required to fulfil roles in work situations required by the job market. There are also initiatives and social guarantee schemes geared towards young people excluded from the regulated training system due to lack of qualifications, the aim being to provide them with the basic skills for their integration into professional life.

The objectives of the LOGSE framework law were: greater flexibility within the vocational training system in order to adapt to current social needs; the accreditation of qualifications; the opening up of the regulated system to the general continuing training of adults; and the linking vocational training policy to current employment policies.

Whilst the educational reform of regulated vocational training is taking place within the framework of LOGSE, the reform of job training forms part of a legislative process leading towards the establishment of a Repertoire of Certificates of Professional Competence - skills acquired through any unregulated training process and those deriving from professional experience. As a result, the job training system has gained greater coherence, with the professional community acting as a governor mechanism for initiatives and a definition of professional competence being adopted which reflects the occupations concerned.

The sub-system of continuing training, co-ordinated by the FORCEM and encompassing all the social partners, is currently in its second phase following the signing of the second National Agreement on Continuing Training covering the period 1997-2000. Whilst the first agreement (1993-96) created the sub-system with the aim of providing qualifications for employed persons, the second agreement has brought in new groups of workers, including self-employed and agricultural workers. Another important objective of the second agreement was the integration and participation of social partners under the aegis of the relevant autonomous community.

Continuing training is now managed by the social partners and is structured in three different ways: training activities (sectoral, intersectoral or company-specific), individual training certificates and complementary initiatives. Conceptually, all of these must be integrated into adult education and ongoing education.

Institutional context

The three sub-systems of the Spanish vocational education and training system (regulated vocational training, job training and continuing training) are the responsibility of various bodies.

Regulated vocational training

The management, arrangement and development of the regulated vocational training sub-system is undertaken by the education authorities. Thus, this regulated vocational training sub-system is the responsibility of the Ministry of Education and Culture, the Higher Council for Vocational Training, the National Institute for Qualifications and the General Sub-directorate for Vocational Training. At the level of the autonomous communities, the relevant regional ministries, or equivalent bodies, are responsible, in addition to the bodies they appoint to this end.

Job training

The management, arrangement and development of the job training sub-system are the task of the labour authorities. These authorities consist of the Ministry of Labour and Social Affairs, the INEM and other special bodies. At the level of the autonomous communities, these powers have been transferred to the corresponding regional ministry or equivalent body, depending on the community concerned. Initiatives are undertaken directly or via networks of cooperating centres.

Continuing training

With reference to the continuing training system, the job training sub-system is administered by the Foundation for Continuing Training (FORCEM), which is in turn managed by the General Workers' Union (UGT), Workers' Commissions (CC.OO), the Galician Trade Union Confederation (CIGA), the Spanish Confederation of Small and Medium-Sized Firms (CEPYME) and the Spanish Confederation of Employers' Associations (CEOE). INEM, representing the State and with the agreement of the social partners (i.e. under tripartite agreements), is responsible for managing the system and for the budget. This sub-system is developed by a wide range of partners, from companies themselves, from a number of productive sectors, who design their own continuing training activities for their own human resources, to training management centres providing sector-specific training schemes.

The operation of the VET system

Anticipated transfers of anticipation findings to the VET system have not yet taken place due to the delayed establishment of the National Institute for Qualifications (Instituto Nacional de Cualificaciones), a body linking inter-system transfer within the general framework of the vocational training systems. For this reason analysis of the transfer methods will be carried out on the basis of the training schemes in operation. As previously stated, the realignment of regulated vocational training provided for in the LOGSE is the responsibility of the relevant education authorities and provides for two training elements.

The first of these two elements is basic or initital vocational training and is situated at the level of obligatory secondary school education and the upper secondary school leaving certificate (Bachillerato); it is the most valid and far-reaching element and the one which is growing the most. Training is targeted principally at young people, but the plan is for sufficient flexibility to allow access for adults. Specialist vocational training is the second element and acts as a bridge between the basic initial system and the labour market. It is organised in training cycles of varying duration and of modular structure, the aim being to promote greater flexibility and capacity to respond to technological and social change.

Job training continues to be the responsibility of the labour authorities. The specific feature of the training offer should be its capacity to respond immediately to the labour market, which calls for continuous development and training to meet demand within the global economy.

Management established at the level of the first two sub-systems is being developed with the aim of achieving transparency of qualifications and concordance with respect to the national system of qualifications. The role played by regulated training is one method of transfer involving a catalogue or repertoire of professional qualifications reflecting what are referred to in the royal decrees establishing their framework as productive and training reference points. Job training is another transfer method, involving certificates of professional competence with a similar structure to those above. Continuing training breaks with the previous two sub-systems by not including these reference points at present. It is claimed that this difficulty can be overcome by the new National Institute for Qualifications, the challenge being to incorporate the continuing training sub-system into the same modular structure as the other two and align its certificates with the national system of qualifications.

The role of the state and the social partners

From 1986, the General Council for Vocational Training (CGFP) began to draw up the first National Vocational Training Programme covering the reorientation and consolidation of vocational training. During the term of this first programme, the process of drawing up what are today known as Vocational Training Certificates and Certificates of Professional Competence began.

The introduction of a system of vocational qualifications had not been achieved in 1999, although the creation of the Inter-ministerial Unit for Vocational Qualifications [Unidad Interministerial para las Cualificaciones Profesionales] and the 1986 law setting up of the General Council for Vocational Training should be noted. Similarly, agreements were concluded in December 1992 within the framework of the first National Vocational Training Programme and its criteria. These involved the UGT, CC.OO and CIGA, on the side of the trade union organisations, and the CEOE and the CEPYME, on the side of the employer organisations. These organisations in turn cooperated with the Government in establishing the continuing training sub-system. In 1996, the Government, the CEOE, the CEPYME, the UGT and the CC.OO signed an agreement on vocational training policy (ABFP) and the Tripartite Agreement on Continuing (ATFC).

In 1997 the composition of the General Council for Vocational Training was changed, acknowledging the significance, ignored in the previous plan, of the Autonomous Communities and the Cities of Ceuta and Melilla.

By way of an overview, it is necessary to emphasise the fact that one of the basic objectives of the new 1998 – 2002 programme is the consolidation of an integrated vocational training system structured on the basis of the three sub-systems with the aim of ensuring active, effective, functional and territorial organisation and cooperation for the National Vocational Training System.

Institutions for the adaptation of VET systems

The National Institute for Qualifications was officially created by Royal Decree in March 1999, as provided for by the second National Vocational Training Plan. There is also the General Council for Vocational Training, the State Schools Council (CEE) and the Conference of Regional Education Ministers (CCE) amongst others. The composition of these bodies varies depending on the geographical area or autonomous community concerned.

The vocational observatories are another relevant partner in terms of the adaptation of systems, targeting prediction and information gathering. The second national plan also provides for the creation of a Vocational Observatory under the aegis of the National Institute for Qualifications which will lead, co-ordinate and transmit reciprocal information from the many regional observatories that currently exist.

Other institutions with tasks in the systemic development of VET systems are the regional bodies, i.e. the regional labour or education ministries or equivalent units within each autonomous community.

Methods, tools and instruments for adaptation

At the time when this report was being prepared, there were no instruments or tools in use, although the principles underlying their development had been established. This is partly due to the very recent creation of the National Institute for Qualifications, as mentioned above, and the very recent transfer of powers in this area to the relevant autonomous community authorities. This means it is not possible to undertake an in-depth study of the extent of adaptation to the need determined in the training plan.

The current methods used in VET systems in Spain cannot be judged from the viewpoint of effectiveness (at present there are no transfers) nor of efficiency (the systems as a whole are still in the process of reorganisation).

The most efficient structures appear to be the formal and vocational education structures, given that from the beginning of the reform, they have generated mechanisms for the assessment of processes by means of specialised technical services seen at both national and autonomous community level, and by using defined skills and correction criteria.

The job training system also has sufficient structures in this respect, although the assessment systems used should be revised with the aim of optimising their efficiency and quality. The continuing training system is a much more "plastic", less homogenous one and as such it is by nature more difficult to assess.

Given that it is necessary for the educational system to ensure the provision to the productive system of human resources with vocational skills, the first obstacle faced by the training plan is that of detecting and analysing the needs of the productive system. Identification of such needs requires at the least three main sub-functions with their own characteristic features. One of these involves the study, definition and development of standards relating to skills. Another would comprise studying the multi-disciplinary relationship between training and employment. The last sub-function would refer to the classification of the aforementioned standards for skills, as well as occupational classifications.

Co-ordination between systems

The co-ordination problems that continue to exist between the training sub-systems can be expressed in terms of the absence of transfer of qualifications, lack of co-ordination of tools created and duplication of economic effort within certain areas . It can be assumed that these difficulties will be eliminated with the development of the National Institute for Qualifications. Our conclusions in relation to the current VET systems in operation can be summarised as follows.

The fact that co-ordination problems continue to exist between the sub-systems of initial vocational training, job training and continuing training has been proven. This lack of co-ordination can be expressed in terms of the absence of the transfer of qualifications, the lack of co-ordination of the tools created, duplication of economic effort, and so on. We assume that, with the creation of the National Institute for Qualifications, these will be overcome.

Summary conclusions regarding continuing training are as follows:
- there is a lack of geographical co-ordination between the organisation of training services;
- the vocational training programmes are rigid;
- there is an lack of recognition of work experience/certification of competences;
- for the job training and continuing training sub-systems, there is little liaison between the parties involved (between the agents providing information and the beneficiaries of the training, companies, workers, etc).

Owing to the absence of any previous joint framework for "skills units" (derived from analysis of the production processes) and of established joint criteria for the regulation of training, it is impossible to compare the different VET sub-systems. The consequences could be serious: on the one hand, those holding qualifications issued by educational system could be faced with problems as regards the recognition of their vocational knowledge and, on the other hand, those holding a certificate of professional competence may not obtain recognition of their training within the educational system. The conclusions obtained from analysis of the international and European framework and the studies relating to qualification needs that have been carried out in Spain clearly point to the fact that the competences demanded by the productive processes and the labour market are general skills related to the resolving and anticipation of problems and evaluation of the results of one's own work as well as creative participation in improving production; these are required to be specifically applicable to whole vocational fields, going beyond the skills required for one particular job. It is possible that the difficulties, in terms of correspondence and co-ordination, arising between initial training and job training, which have been referred to throughout this analysis, are caused not only by the absence of a vocational qualifications system, but also by the fact that the functions of the different types of vocational training have not been clarified.

Although the first Vocational Training Plan (1993 – 1996) had the task of providing a structure for the systems we know today and although the intrinsic difficulties of this task are understandable, the delay in bringing the resources provided for in the first Vocational Training Plan into play (1996 – 1999) is a lot less understandable.

With reference to the legislative framework for this Vocational Training Plan, it is necessary to point out that aspects which we consider essential for a more comprehensive alignment have not been developed to any great extent, or indeed have been omitted. Such aspects include: a detailed definition of the strategic framework for the plan; a clear and broadly-agreed definition of the systems and sub-systems, the principles underlying an integrated vocational training system; the definition of a plan; and the co-ordination and structuring of the system (set down in a mere 20 lines referring to the "objectives" to be covered with reference to the means established for its development and monitoring).

We were unable to find any reference whatsoever, in the only framework document establishing regulations governing the vocational situation, and which is applicable at national level, to what we as experts in the field of education consider to be a key point. No reference of any kind is made to past or current multi-disciplinary diagnoses of the situation of vocational training (which could, or indeed should, include the educational sub-systems). Nor is any reference made to quality aspects or the analysis of the problems anticipated by the main factors involved in the systems.

The variability (in terms of depth of analysis and scientific rigour) found in the different vocational training plans of the autonomous communities introduced thus far should be noted. We refer in particular, in the context of this study, to the rigour present in the analysis and approach used for the development of the vocational training plans of the Basque Country and Andalusia. Both plans, in addition to that noted above, make a tangible effort, for the sake of national co-ordination and the development of quality elements.

Recommendations and conclusions

Without entering into descriptions that would require subsequent, more detailed investigations, we would recommend reinforcing the systems used for the assessment of the training sub-systems, e.g. to establish a tool to measure the parameters of "effectiveness." A quality education is one that ensures that, at the end of the process, that students really have learned what they are supposed to learn – that which is established within curricular plans and programmes. "Efficiency", "relevance" and "significance of content" might also be quality indicators for the development of the national vocational training systems.

There is still scope for considerable improvement especially in terms of co-ordination between the sub-systems. This can be expressed in terms of limited flexibility and transfer of qualifications, lack of co-ordination of tools created and duplication of economic effort within certain areas. There is a notable lack of co-ordination regarding the continuing training sub-system in relation to the other two sub-systems. The former is by its nature a much less homogenous system and has other priorities relating to criteria geared more towards territorial or sector-specific needs.

It is hoped that many of the difficulties observable in the system at present will be eliminated by the recently created National Institute for Qualifications. A general strengthening of the assessment system, the technical instruments of the educational systems and the instruments of transparency and distribution of results is to be recommended.

Objectives, instruments and tools

Objective of the vocational training plan which guarantees ..	Instrument	Tools included within the relevant instrument
1. The creation and management of the National System of Qualifications	National Institute for Qualifications	
2. The exploration of professional changes and the anticipation of trends	Vocational Monitoring Institute	
3. Flexible adaptation to challenges	Idem	• Monitoring, planning, agreement with partners, assessment and feedback on the process • Modular development of skills, adaptation of skills, diversification of training itineraries and links etc.
4. Quality and efficiency	Idem	• Design, development and assessment of control processes • Training of training staff • Transfer of cross-system information • Management plan. • Regulation of approved training centres

Abbreviations

BOE	Boletin Oficial del Estado, *Official State Gazette*
CC.OO	Comisiones Obreras, *Workers' Commissions*
CEOE	Confederación Española de Organizaciones Empresariales, *Confederation of Employers' Associations*
CEPYME	Confederación Española de Pequeñas y Medianas Empresas, *Spanish Confederation of Small and Medium-sized Firms*
CIGA	Confederación Intersindical Gallega, *Galician Trade Union Confederation*
CGF	Consejo General de Formación Profesional, *General Council for Vocational Training*
FIP	Plan de Formación e Inserción Profesional, *Vocational Training and Rehabilitation Plan*
FORCEM	Fundación para la Formación Continua, *Foundation for Continuing Training*
INEM	Instituto Nacional de Empleo, *National Employment Institute*
LOGSE	Ley Orgánica de Ordenación General del Sistema Educativo, *Framework law on VET*
UGT	Unión General de Trabajadores, *General Workers' Union.*

7. France

Henriette Perker

Numerous methods, tools and instruments for anticipating qualifications and skills are being developed in France at national, regional and sectoral level, and also within individual enterprises. Different bodies are involved in macro-economic forecasts (Bureau International de Prospectives Economiques) and in regional (COPIREs and OREFs) and sectoral observatories (CPNEs). Some sectors have benefitted from "forecasting contracts" (contrats d'études prospectives, CEPs) while in all regions, and some sectors, regional employment and training observatories have been set up - permanent instruments for monitoring change in employment, training, qualifications and skills. As a result of decentralisation in the 1980s, regional authorities have acquired new responsibilities, particularly in the field of initial and continuing training for young people. The complexity of the relationship between employment and training, and the process of adapting qualifications and skills to the needs of enterprises, has become increasingly apparent in France. Rising unemployment and changes in methods of personnel management and work organisation have led to a change of approach. The analyses of the early 1960s which focused on supply and demand, have given way to flow and systems studies.

Historical development of the analysis of needs for new skills

The first French studies of the national economy's labour needs and the response of the education system were conducted in the 1960s. Labour supply was calculated independently of economic forecasts and on the assumption that past trends (termination of and entry into occupational activity, occupational mobility, immigration) would continue unchanged.

That approach, based on separate projections of supply and demand as regards work in each occupation (in which education was a variable), has since been rejected.

The roles of continuing training and occupational mobility have become apparent. It has also been noticed that the fact that a person holds a particular diploma is not the only factor determining his recruitment: different types of diploma may supply the same occupational category and, similarly, a single diploma may lead different people into different jobs. The tendency now, therefore, is to speak of the interaction between training, skills and qualification structures and occupational mobility.

In a world in which job growth is becoming generally inadequate to absorb the potential working population in its entirety, there has been a shift away from looking at the issue in accounting terms and towards analysing the mechanisms governing the dynamic adjustment of jobs, qualifications and skills.

Studies have been conducted on the flows into the potential working population, particularly of young people entering the job market for the first time.

New analytical instruments, such as the "répertoire français des emplois" (French job index), the "observatoire des entrées dans la vie active" (observatory of entries into working life) and "bilans formation-emploi" (training/employment balances), have been created.

In 1987, at the initiative of the Minister for Social Affairs and Employment, and in agreement with the social partners, a new forecasting system was established, comprising three elements:
- a macro-economic mechanism, projecting needs in terms of qualifications and skills, based on detailed economic forecasts (most recently for the period 2000-2010);
- work conducted by employment/training observatories at regional and territorial level;
- sectoral forecasts: the most significant of the proposed measures, whereby the State and certain industries, if they are so willing, enter into forecasting contracts ("contrats d'études prospectives").

Methods of transferring research results to the education and vocational-training system

What has become apparent is that the forecasting activities conducted at regional level within certain industries and enterprises do not respond, in any specific way, to all the problems raised, whether in the short term, by enterprises who want trained staff or, in the medium term, by those responsible for national and regional training policies, whose task is to prepare for the future. We also know that people can acquire skills through routes other than initial training and that training is not the only way of meeting enterprises' needs in terms of skills.

Three categories of forecasting method are considered here:
- macro-economic forecasting;
- forecasting contracts;
- employment observatories.

A macro-economic model for forecasting employment structures

At the request of the National Education Ministry's Evaluation and Forecasting Department and the High-level Committee on Education and the Economy[14], several medium-term forecasts have been drawn up by a private company specialising in sectoral and global analyses, BIPE (International Economic Forecasting Office).

The overall figures from the last study commissioned in 1996, made it possible to establish some scenarios that might aid management of the education system, although the limitations of such a macro-economic approach are considerable.

Forecasting contracts (CEPs)

Forecasting contracts, or CEPs (contrats d'études prospectives), were introduced by the public authorities at the end of 1988 to promote the pooling of public and private resources in terms of expertise. The social partners in various industries concerned have joined forces with the State and have shared responsibility for designing and conducting research.

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[14] Set up in 1986, the committee is responsible for establishing on-going dialogue between the Education Ministry and its economic partners.

CEPs are agreements signed between the State, industry organisations and one or more outside operators. The industry concerned and the State (through the ministry responsible for vocational training) make an equal financial commitment. (These agreements provide the social partners in a given industry with a tool for forecasting the economic and social changes likely to affect them.)

Each CEP is drawn up individually, in accordance with its specific context. However, they usually comprise three main phases:

- sectoral diagnosis;
- identification of possible future trends;
- recommendations for action.

To describe the essential features of each industry as clearly as possible, the studies conducted under forecasting contracts are based on a range of different information sources. They also provide quantitative information on the workforce and employment (gender, age, level of education, mobility, employment status, organisation of work), and attempt to identify the skills required for jobs in the industry.

Example of a CEP: the hotel and catering industry

Recruitment

The traditional hotel and catering sector essentially employs professionals. Chains and groups recruit young people with hotel and catering qualifications, as well as people with experience in the industry and others with no relevant experience. Low-cost hotel chains and fast-food outlets tend to recruit young people and students from outside the sector. Professional experience, good presentation and personal motivation are the main recruitment criteria.

Skills

Jobs no longer centre around the simple practice of production techniques. They require management skills, an understanding of commercial relations, leadership qualities, and an ability to adapt to technical change and new methods of work organisation.

Jobs in the sector

Job figures in the sector vary enormously from one geographical area to another. Overall, the sector employs 790,000 people, of whom 200,000 are unpaid, and the figure rises by more than 200,000 in high season, with seasonal workers comprising skilled professionals, local people with more than one job and young people covered by special State training schemes or employment contracts. The number of fixed-term contracts is double that in any other sector, and apprenticeships are also more common than in other industries.

The impact of CEPs

- CEPs increase the visibility of the sector and the occupations within it. They also help to promote action by the social partners. ("The information contained in CEPs is often used by the social partners as a basis for establishing shared objectives to improve social dialogue and launch new discussions");
- CEPs can facilitate the expression of demand as regards initial and continuing training, for example, when training content is being discussed by the Education Ministry's "commissions professionnels consultatives" (CPCs - occupational advisory commissions);
- They can also lead the social partners in a particular industry to look towards creating special certificates of occupational skills. In the "quarrying and structural metalwork" industry, for example, the CEP led to the setting up of 9 professional qualification certificates specifically for this industry.

Since 1994, several CEPs have led to the setting-up of observatories, which would make it possible to monitor data on employment and training, even once the CEP itself had expired. These observatories ensure the permanent monitoring of trends concerning jobs, occupations, enterprises and establishments and make it possible to conduct special studies to answer specific questions concerning new occupations or activities relating to the main activity of a particular sector.

The regional approach

"Observatoires régionaux emploi-formation" (OREFs - regional employment/training observatories) have been set up under framework contracts between the State and the regions since 1989, and bring various regional services together: the regional authority, regional labour, employment and vocational-training offices, regional agriculture and forestry departments, regional INSEE offices, the "Rectorat" (Ministry of Education) and, in some cases, chambers of commerce and the social partners.

The role of the observatories is to synthesise information on employment and training from these various services to gain a holistic view. This means they are contributing to the establishment of a regional statistics system, bringing together data on the training of young people and job-seekers and data on the labour market and employment. They also have a forecasting role as regards occupations and skills.

Observatories' studies are used by:

- regional authorities, which have since 1994 been responsible for co-ordinating the various branches of vocational training for young people - both initial and continuing - at regional level;
- training bodies, which can also use forecasts concerning the future needs of the labour market as a guide for setting up new training routes and phasing out courses that no longer meet the needs of the market;

- services responsible for providing young people and adults with information and guidance, which can use forecasts concerning jobs, qualifications and skills to provide people with better advice.

This information can help to guide regional training policy, influence decisions to start up or close down training courses and improve co-ordination of initial and continuing training.

The role of the State and the social partners at various levels of decision-making

In France, the social partners occupy a vital, if not central, place in the provision of continuing vocational training. Various institutions (described below) bring together, with equal status, at national and regional level, representatives of the State and the social partners involved in vocational-training policies.

Commissions paritaires nationales de l'emploi (CPNEs - Joint National Employment Commissions)

The general remit of the CPNEs is to promote training policy within the various industries. They have an information and research role as regards employment issues and the occupational integration of young people. They examine methods of implementing the guidelines drawn up by industries concerning the development of initial training, whether technological or vocational, at secondary or higher-education level.

The CPNEs are consulted by the State, the regional authorities and individual industries before the conclusion of training and forecasting contracts. In some industries, they play an important role in defining new qualifications and skills specific to the industry.

Commissions paritaires interprofessionnelles régionales de l'emploi (COPIREs - Regional Multi-Industry Joint Employment Commissions)

COPIREs were first introduced at the same time as CPNEs under an agreement signed by the social partners in 1969. They participate, at regional level, in studying resources for basic and advanced vocational training and occupational rehabilitation, and in promoting training policy in the region. Again at regional level, they work with the bodies and institutions responsible for training to study the approaches that need to be taken to help improve the employment situation. In addition to these, the State and the social partners are involved in other mechanisms related to anticipation research such as the the forecasting contracts and employment observatories (referred to above) and the occupational advisory commissions which are involved in the creation of technical and vocational qualifications (see original report).

Assessment of methods, conclusions

Forecasting is only one aspect of strategic planning; it makes it possible to gather information and synthesise, but it does not provide a clear-cut response to the problem of matching training and jobs.

Needs in terms of skills are not the same as training needs. Indeed, training is not the only way of meeting enterprises' needs and the purpose of training is not merely to respond to those needs. And defining a vocational-training policy is not simply a question of gathering information and conducting studies. A compromise has to be made between what is attainable and what families may wish for their children, the hopes and expectations of job-seekers, etc.

It is proving very difficult to forecast qualifications and skills and adapt training systems to the changes thus predicted. According to the Commissariat Général du Plan, greater effectiveness might be achieved by improving statistical observation grids and closer collaboration among the various partners involved ... The enormous amount of information produced at macro-economic level, by sectors or even by individual enterprises, means it is difficult to read the information holistically, since each sector and enterprise uses its own particular statistical system ... As regards collaboration among the various partners involved (enterprises, trade union representatives, policy-makers at regional and national level), many analyses point to the need for greater representation and mobilisation of professionals within consultation bodies ...More generally, it has been noted that the process of gradual decentralisation that has transferred increasing responsibility for training to regional authorities has not always been accompanied by any real political and social dialogue.

Abbreviations

BIPE	Bureau International de Prospectives Economiques, International Economic Forecasting Office
CEPs	Contrats d'études prospectives, forecasting contracts
COPIREs	Commissions paritaires interprofessionnelles régionales de l'emploi, Regional Multi-industry Joint Employment Commissions
CPCs	Commissions professionels consultatives, occupational advisory commissions
CPNEs	Commissions paritaires nationales de l'emploi, Joint National Employment Commissions
INSEE	Institut National de la Statistique et des Etudes Economiques, National Institute of Statistics and Economic Research
OREFs	Observatoires régionaux emploi-formation, regional/employment training observatories.

CEDEFOP (2000): 'Anticipation of Occupation and Qualification Trends in the European Union'

Methods, tools and instruments for anticipating qualifications and skills

Overview

TYPE OF TOOLS OR METHODS	OBJECTIVES	PLAYERS	ROLES
Macroeconomic forecasts	Medium-term forecasts relating to employment in the major sectors and main socioprofessional categories	- National Ministry of Education - BIPE (Bureau International de Prospectives Economiques) [International Economic Forecasting Office]	**Sponsor** **Responsible for implementation**
Forecasting contracts (CEPs – contrats d'ϑtudes prospectives)	To study employment and qualifications by occupational field for forecasting purposes	- State (ministry responsible for vocational training) - Social partners of the occupational field in question	**Sponsor** **Responsible for implementation**
Regional employment-training observatories (OREF – observatoires regionaux emploi-formation)	To synthesise information relating to employment and training at regional level	***Various regional departments :*** - Regional labour, employment and vocational training offices - Regional INSEE (Institut national de la statistique et des etudes économiques) offices - Rectorat (Ministry of Education) - Regional agriculture and forestry departments ***Occasionally:*** - Chambers of Trade - Social partners	**Contribute to the establishment of a regional statistics system and use this data to initiate measures**

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Sectoral Observatories	To establish indicators to clarify choices regarding employment and training at sectoral level	- Employers' organisations and often trade unions - Consultants or internal research departments	**Sponsors** **Responsible for implementation**
Enterprise Observatories	To establish indicators to clarify choices regarding employment and training at enterprise level	"	"
Occupational Advisory Commissions (CPCs – Commissions professionels consultatives) for the ministries responsible for education, employment and agriculture	To create or modernise qualifications and diplomas based on feasibility studies	**Representatives of:** - employer groups - employee groups - public authorities - groups of experts	**Initiated by employers or ministries** **The social partners play an advisory role**
Joint National Employment Commissions (CPNEs – Commissions paritaires nationales de l'emploi)	To promote training policy within the relevant occupational fields	**Social partners**	**To contribute to research into existing training and to develop new qualifications**

8. Ireland[15]

CIRCA

Investment in education and skills over the past decade has played a central role in the economic growth experienced in the Irish economy over the past five years. The share of national income devoted to education has doubled since the 1960's. The importance of creating and maintaining a highly skilled and motivated workforce is seen as essential to Ireland remaining globally competitive.

Characteristics of the Irish labour market

The number of people available for work has grown substantially in recent years. Ireland's labour force has grown by 7.8 per cent, and the number employed has increased by 12.6 per cent, over 1994-1997. The growth in the labour force can be attributed to the following factors:

- the number of young people entering the labour force from education rose from 40,200 in 1994 to 45,900 in 1997, a rise of 14 per cent;
- female participation in the labour force rose from 39 per cent in 1994 to 42 per cent in 1997, compared to an EU average of 47 per cent;
- unemployment fell from 219,000 in 1994 to 179,000 in 1997. The numbers of short-term unemployed fell from 76,4000 in 1994 to 67,100 in 1997 a decline of 12 per cent. The number of long term unemployed fell from 128,200 in 1994 to 86,300 in 1997, a decline of 33 per cent;
- net migration, the movement of people in and out of the country, changed from –4.700 in 1994 to +15.000 in 1997.

Unemployment has declined rapidly over the past few years and is below the EU average at 8.7 per cent. The Irish Government has set an objective to reduce this further to 7 per cent by the year 2000. As part of this plan, Government intends to cut the standardised unemployment rate to five per cent within a four to five year time span. This plan implies a two per cent long-term unemployment rate.

The *National Employment Action Plan* is a major policy instrument of Government. It provides a strategic framework for a range of activities aimed at reducing unemployment, with associated targets to reduce early school leaving, tackle unemployment black spots and rural poverty. Other key measures in the Plan aim to support the flexibility of businesses and their employees, strengthen equal opportunities policies, develop entrepreneurship, provide improved childcare facilities and assist disabled persons in gaining greater access to the world of work.

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[15] This article was prepared in 1999 at which time the Qualifications (Education and Training) Bill was under discussion.

The proportion of people participating in education has substantially increased in recent years and is now 85 per cent, this is significantly higher for 15-18 year olds than the average for OECD countries. However, in the 25 to 64 year olds, where 20 per cent have completed third-level education approximates to the OECD norm of 22 per cent, the proportion that has completed secondary levels is only 27 per cent compared with 40 per cent in the OECD.

Retention rates through secondary–level education have risen rapidly from 70 per cent in 1986 to around 82 per cent today. Policy is based on increasing this rate to 90 per cent by 2000. Whilst the legal school leaving age is 15 years, it is expected that legislation will be introduced to raise this to 16 years. Forfas , the policy advisory and co-ordination board for industrial development and science and technology in Ireland, has already recommended that the compulsory school leaving age should be progressively increased from 15 to 16 to 17 by the year 2000.

Transfer rates to third-level education are high. In 1994, 30.5 per cent of Irish young people aged 19 to 21 were enrolled in third-level education compared with an OECD average of 21.5 per cent and an EU average of 22.3 per cent. However, it should be borne in mind that entry ages to third-level tend to be higher in the EU than in Ireland.

The number of professionals and technicians employed in Ireland have substantially increased from 188,400 in 1990 to 232,100 in 1997. This is partly in response to the rapid growth of the information technology industries which has led to increased demand for engineers and scientists[16]. Ireland has a higher percentage of third-level qualifications in natural science, maths and business studies, and a lower percentage in engineering, than the OECD norm.

Demand for people with low-medium level skills has increased in line with the growth in the Irish economy. The rapid economic growth has led to an increase in employment in most sectors. The labour force grew by almost 200,000 between 1992 and 1997 according to the Labour Force Survey. The high retention levels in education has also contributed to tightening in labour supply at least in the short-term.

Raising and refining the skills of those already at work in enterprises is seen as a crucial component in adapting to industrial and technological change. A Forfas/ESRI survey in mid 1997 showed that 30 per cent of companies see skill deficiencies as a problem and 60 per cent of companies see a need for increasing skill levels, especially in technology and customer service. Firms with 0-9 employees have low labour productivity levels. A cause of this is the low investment by SMEs in skills.

The fact that eighty per cent of the workforce working in ten years time is already working and that skills deficiencies are currently a problem points to the urgency for enterprises and VET systems in Ireland to have flexible and effective methods of anticipating and responding to these needs.

The Irish educational and training system is characterised by a multiplicity of certifying bodies and a lack of coherence and progression between certifying systems. The process for developing new courses, skills and competencies varies according to the systems and requirements of each body with each identifying new qualifications, skills and competencies with regard to their own provision. The multiplicity of involved bodies is illustrated below.

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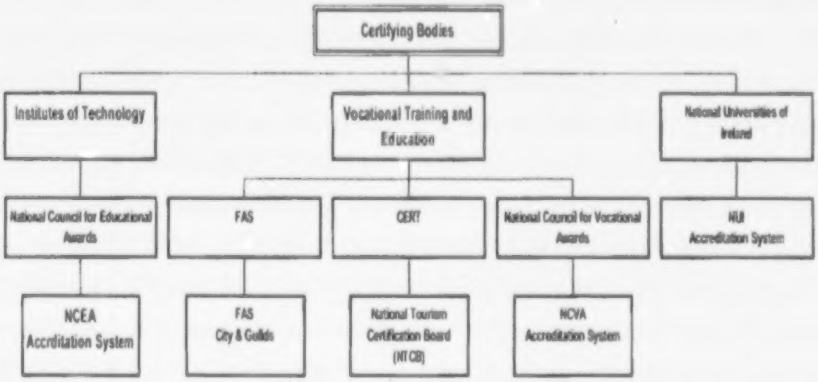
[16] National Competitiveness Council "Statement on Skills", p.4

Main Certifying Systems


Certifying Bodies
Institutes of Technology
Vocational Training and Education
National Universities of Ireland
National Council for Educational Awards
FAS
CERT
National Council for Vocational Awards
NUI Accreditation System
NCEA Accrditation System
FAS City & Guilds
National Tourism Certification Board (NTCB)
NCVA Accreditation System

VET institutions

The framework described above includes variations in approach to the identification of new skills and competencies, this varies from the identification being done by course providers predominantly, as in the NCEA[17] and NCVA[18] and NUI[19] systems to the identification of sectoral skill needs through research and consultative process which is a common feature of the CERT[20]/NTCB[21], FAS[22]/City & Guilds systems. Each certifying body has in place a consultative mechanism for the involvement of industry and social partners, though this varies in level and importance afforded to it by each certifying body. There are linkages with certifying bodies internationally in each of the above systems. FAS is seen as having stronger links with overseas organisations, these are based on bilateral arrangements and provide added value to learners in terms of recognition of their qualifications should they wish to study or take up employment in countries with these agreements.

In Ireland, each of the above bodies have monitoring and review systems incorporated into their structures. However, there is variation in the structure and content of such reviews and in approaches. In the case of NCEA there is an institutional review every five years where the quality of the institution's work is evaluated and recommendations are made. In addition, there is a Programmatic Review that examines provision by faculty and focuses on courses previously approved. Here the emphasis is on the flexibility and appropriateness of response to changing needs. Reviews in the NCEA system takes place in five year cycles, review of the past five years and setting projections for next five years. Particular attention is paid to relevance and the context of the institution's response to changes in industry and education.

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[17] National Council for Educational Awards.
[18] National Council for Vocational Awards.
[19] National University of Ireland.
[20] CERT, National Agency Tourism Training.
[21] National Tourism Certification Board.
[22] FAS, the Irish Training and Employment Authority.

In relation to FAS, new courses are identified through a process of sectoral studies and sectoral committees that are representative of industry, social partners and other relevant interests. Local and regional communities may also identify skills deficits and make proposals to FAS, who then may carry out pilot training initiatives and on assessment of these decide to formally transfer a course into mainstream activity, providing full certification and standards framework. All FAS courses are standards based, and are set in close consultation with the relevant industry sector. The ongoing monitoring and review process is not set in a particular timeframe and tends to be responsive to feedback from course providers and level of entry of candidates into employment and the relevance of course content to the workplace.

Developments within the VET-system in Ireland.

The above scenario will change with the advent of new legislation currently proposed. In an effort to address the situation already described above, a recent Government White Paper 'Qualifications (Education and Training) Bill, 1999 has been brought forward and is currently under discussion. The aims of this Bill are: i. to establish and develop standards of knowledge, skill or competence, ii. to promote the quality of further education and training and higher education and training, iii. provide a system for co-ordinating and comparing education and training awards and iv. to promote and maintain procedures for access, transfer and progression. [23]

This Bill provides for the establishment of a National Qualifications Authority of Ireland. This body will have an overarching role and responsibility in ensuring that the various components of the Bill - the framework of qualifications, the standards of awards, the quality of education and training provided and greater opportunities for all learners - are established and maintained in a consistent and open manner. The Authority will have three principal objects:

- the establishment and maintenance of a framework of qualifications for the development, recognition and award of qualifications based on standards or knowledge, skill or competence to be acquired by learners;
- the establishment, promotion and maintenance of the standards of awards of the further and higher education and training sector, other than in the existing universities;
- the promotion and facilitation of access, transfer and progression throughout the span of education and training provision.

This Bill provides for the establishment of two new awarding bodies - the Further Education and Training Awards Council and the Higher Education and Training Awards Council. These will be the awarding Councils which will make national certification available for all education and training in the state, other than that provided in the primary and post-primary sectors, the Dublin Institute of Technology and the Universities.

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[23] Qualifications (Education & Training) Bill, 1999.

The anticipated impact of the proposed Qualifications Bill in terms of achieving improvements in the process of anticipating new qualifications/competencies and the adaptation of VET systems at this early stage is difficult to assess and quantify. However it is immediately obvious that the proposed changes indicated in the Bill will bring greater coherence and cohesiveness to the existing VET systems. Specific provision for the anticipating of new qualifications and competencies is not written into the bill at this stage. It is anticipated that such provision will be the responsibility of the two awarding councils to be established under the bill.

National framework for coping with future skills needs

Overall Government responsibility in Ireland for the development of a skilled and well-educated workforce lies primarily with the Department of Education and Science and the Department of Enterprise, Trade and Employment. The Irish Government saw as a key policy requirement that skills needs, both in terms of number and type and level are estimated accurately and that the appropriate policies are put in place in sufficient time to ensure that the skills demands of the economy are met. The Government established the Business Education and Training Partnership in late 1997 to develop national strategies to tackle the issue of skill needs, manpower needs estimation and education and training for business. Three main sub-structures of the partnership were:
- the Business/Education and Training Partnership Forum;
- the Expert Group on Future Skills Needs;
- the Management Implementation Group.

The Business/Education and Training Partnership Forum

This forum was established to provide for the interchange of ideas between representatives from the key business sectors and the educational sector. It is representative of the highest levels of the business sector, the education and training sector, the trade unions, Government departments and the development agencies. The objective of the Forum is to form a consensus on how to approach the critical issues underlying the business and education/training relationship and to generate policy proposals. The first meeting of the Forum was held June, 1998 and was jointly chaired by the Minister for Education and Science, and the Minister for Enterprise, Trade and Employment. The purpose of the first meeting was to consider the problem of skill shortages in the technology sector in Ireland and a number of significant proposals for resolving the issues were discussed. Future meetings will focus on issues of significance to industry, education and training.

Expert Group on Future Skills Needs

The Expert Group on Future Skills Needs builds on work carried out by the Forfas Interim Skills Group (1996-1997) which examined emerging skill needs. This group comprises representatives of the Business/Enterprise Development Agencies, relevant Government Departments, the education and training bodies and industry. This group carries out analysis of the future skills needs of the economy and develops proposals to meet these skills needs. The initial focus of the Expert Group was on the skill needs of the technology sectors. This focus is extended to other key sectors of the economy in subsequent reports. The Group has recently published its first report "Responding to Ireland's Growing Skill Needs" 1998[24]. This report addresses the needs of the economy for high-skilled information technology staff. It draws conclusions and makes firm recommendations on what actions the relevant agencies should take to ensure a labour force with the appropriate qualifications and competencies to meet future needs. The Expert Group is examining the skill requirements of the information technology sector and skills needs of other high-tech sectors. The Group intends to extend its focus on increases/decreases in the requirements for medium/low level specific skills and occupations in key sectors in the Irish economy.

The Management Implementation Group

This is a senior management group and has responsibility for the implementation of the policy proposals developed by the Expert Group on Future Skills Needs. Membership comprises the Chairperson of the Expert Group together with the Secretary General of the Departments of Enterprise, Trade and Employment and of Education and Science, Higher Education Authority and Forfas. This high level management group has been very effective in achieving the implementation of proposals from The First Report of the Expert Group already mentioned.

Transferring anticipatory skills studies into the VET system

The Interim Skills Group's analytical work led to the launch of an Action Plan for Skills in 1997. This provided for the intake of an extra 3,200 students into software professional, electronic technician and tele-services staff courses run by the universities, institutes of technology and post-leaving certificate (PLC) colleges. The Government launched a £250m Scientific and Technological Education (Investment) Fund in November 1997, and a Technician's Taskforce was established in July 1997 to examine the need for technicians for the broad electronics sector. The result of the above actions was that the anticipatory skill shortages were addressed involving the educational and training providers, social partners and Government departments.

As can be seen from the above example the State through Forfas has a combined role of facilitator and architect. It has put in place a framework for anticipating future skills requirements and has set up a partnership structure for the planning and responding to such skills needs which extends beyond the education and training institutions. This is done mainly through the Business/Education Partnership Forum that comprises of business sectors representatives, education and training sector, the trade unions, Government departments and the development agencies. The objective of the forum is to form a consensus on how to approach the critical issues underlying the business/education/training issues and to generate policy proposals.

A number of other developments have taken place within the Irish VET system that have resulted in the active involvement of industry in the design and dual provision of vocational training programmes. FAS has developed the National Traineeship Programme in conjunction with employers who provide an in-company training element and act in a mentoring role to the trainees while in the enterprise. Employers play an important role in decisions regarding curriculum content, defining worker standards and in validating the appropriateness of the inputs in relation to the skills required. There is a case for greater involvement of industry in such developments in vocational and education in the Irish system. It is important that this element is fully incorporated under the proposed Qualifications (Education & Training) Bill, 1999.

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[24] "Responding to Ireland's Growing Skill Needs", first report of the Expert Group on Future Skills Needs, Forfas

Conclusions

The structures put in place in Ireland for the anticipation of new competencies and qualifications and the adaptation of VET systems in relation to this has been largely successful as is evidenced in the growth in the economy and the corresponding growth in employment. This success can be attributed in large part to the role of Forfas who put structures in place that provided an integrated approach at national level to skills anticipation and qualifications. This approach has worked well for the areas of priority identified and has ensured an adequate response for the sectors concerned. This over-arching structure provided through Forfas has overcome the weaknesses evident in current structures in vocational and educational provision. However, Forfas are concerned primarily with sectors and skills that have a strategic significance for the development of a competitive and productive economy. There are sectors and skills levels that have not received such appraisal to date, either because of low strategic importance or are not significant in terms of economic growth or employment.

It is important that such functions are built into the new structures that will emerge from the proposed legislation. The proposed National Qualifications Authority in the 1999 should have the responsibility for ensuring that the anticipation and identification of new qualifications and competencies is an integral part of its role. The tools and methods required need to be developed and refined. Finally, the capacity of vocational and educational institutions to anticipate and to adapt to changing needs could form part of their quality assurance systems.

9. Italy

Mario Gatti and Maria Grazia Mereu

Developments in the analysis of skill requirements in Italy

The ideal link between the needs that have emerged following the radical changes in the economic system and the regeneration of the training system is the compilation, interpretation and prediction of occupational and training requirements. In Italy these two systems - economic and training - have developed along independent lines over the past few decades, producing and consolidating significantly different cultures and languages. There was a (relatively brief) period in which the two systems looked at each other with growing mutual interest - despite the residual difficulties in setting up the dialogue needed to bring about effective synergy, given the inconsistency of the reasoning and objectives underlying each system. Today needs analysis is developed on its own rights again. Over the past decade the institutions and the social partners have become aware of the great importance of the strategic role of the analysis and anticipation of requirements in formulating training policies. Such analysis is a vital, even if not the only, prerequisite for the constant renewal of training provision in line with the needs expressed by the socio-economic system. A decisive contribution to this new awareness has been made by the new action strategies proposed at Community level through the European Social Fund, which features the analysis and anticipation of needs as an action that cuts across all the various strands of intervention. The new form of planning-by-objectives highlights the fundamental role of needs assessment and analysis, making them the focus of the whole process of planning, not just for vocational training but also for economic and employment growth and for the definition of active labour policies.

A series of initiatives has been launched in Italy over the past few years, creating fresh impetus for consolidating and strengthening the role of needs analysis in the development and administration of the labour market and human resources. The consultative agreement between the Government and the social partners in July 1993, together with Law 236/93 enacted at the same time to regulate urgent measures in support of employment, were the first institutional steps in this new direction. In particular article 9 of that Law states: "*For the analysis of and further research on local employment situations and the conduct of surveys directed towards the needs for occupational competences, the autonomous regions and provinces may stipulate conventions with joint agencies in pursuance of agreements between the trade unions and the employers ...*". This legislative measure was followed by various protocols of understanding between the social partners and the institutions. In their wake came the Framework Convention on setting up a permanent, updateable review of occupational needs. In this agreement the signatories expressed their awareness of the need to launch experimental surveys, with the following objectives[25]:

- to conduct reconnaissance that will help to predict the needs for the training of human resources through an analysis of the occupational needs and competences of young people and those already in work;

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[25] Ministry of Labour and Social Security. Framework Convention between the Ministry, the Regions and the social partners for the creation of a permanent, updateable system of surveying the occupational needs of the production system.

- to apply an effective methodology both at local geographical level and within individual sectors;
- to obtain findings that can be used in the planning and/or design of training and guidance measures and in active labour policies;
- to verify jointly the methods applied and the outcome of experiments together with the aim of proposing the transfer of tested and jointly validated methods to other sectors.

The model and procedures brought into being by the July 1993 agreement put the relations between the Government, the unions and the employers' associations on a stable, permanent footing. This new relationship between operators and institutions has led to the launching of consultative policies that create impetus for the modernisation of Italy. The challenge is to increase competitiveness while maintaining good social and employment conditions. The Government and the social partners have repeated their conviction of the need for an integrated strategy for macroeconomic policies, labour market policies and employment policies, through the 1996 Labour Pact and the 1998 Social Pact. Both these Pacts confirm that needs analysis is at the core of action to develop the training system, both in terms of vocational training and in defining active labour policies.

The legislation and agreements referred to above commit the Government and social partners to act on needs analysis at the national level, but they are grafted on a whole set of experiments previously conducted at local level. The requirement of defining active training policies consistent with the needs of individual geographical areas has in fact first been developed in local contexts at a relatively recent time, from the mid-1980s. These were pilot experiments promoted by the more sensitive local institutions. The bodies that first conducted surveys were the regional and provincial *Osservatori del Mercato del Lavoro* (OML - Labour Market Observatories)[26]. With few resources, the measures demonstrated a fair level of creativity as well as a dash of improvisation. The experiments had certain scientifically interesting features in the original methods and approaches they adopted.[27] The investigation of requirements, however, made little impact on training policies. The reasons for this failure to influence the renewal of the training system lay in a lack of initial co-ordination between those conducting surveys and those who might have used their findings, and in the multiple objectives of those surveys, which were used both for statistical purposes and for the guidance and reforming of the education/training system. This meant that their findings were too generic to be used by political decision-makers.

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[26] The Labour Market Observatories, together with the Employment Agencies, are an expression of the existence at local level of services provided by the Central level (the Labour Ministry). Under the reform of public administration and other departments, these services will now be managed directly by the local authorities.

[27] As an example, we would quote some significant experiments conducted between 1986 and 1991: "The evolution of the occupational structure in Piedmont and employers' recruitment policies" conducted by IRES; "The Regional Observatory of Occupations" conducted by the Labour Market Observatory for the Region of Umbria; "The Forum on occupations" of the Labour Market Observatory of the Region of Lombardy; "Quantitative surveys on the demand for labour" conducted by the Trento Labour Agency; the "Survey on the demand for labour in Tuscany" conducted by the Labour Market Observatory for the Region of Tuscany; and the "Periodical Survey of training needs on a local basis", conducted by the Labour Market Observatory for the Province of Bologna.

From 1993 on, following the strong pressure exerted by the Community recommendations embodied in national legislation, Italy entered a new phase. This included the proliferation of local-level measures and the launching, in 1996, of the first national experiment through the conduct of surveys on the needs for occupational skills (under the Framework Convention). The Government's aim was to lay the foundations for building up a permanent, updateable national system of surveys of occupational and training needs.

The first two schemes, the responsibility for which was delegated to the bilateral bodies[28], OBNF (*Organismo Bilaterale Nazionale per la Formazione* - the National Bilateral Training Body) and EBNA (*Ente Bilaterale Nazionale per l'Artigianato* - National Bilateral Body for Craft Trades), set themselves the following goals:

- to conduct reconnaissance that would help to predict the needs for the training of human resources through an analysis of the vocational needs and competences of young people and workers (EBNA) and to identify those typical practitioners in which employers express the most interest (OBNF);
- to apply an effective methodology at both local geographical level and within individual sectors of the economy;
- to obtain findings that could be used in the planning and/or design of training and guidance measures and for active labour policies;
- to verify jointly the methods applied and the outcome of experiments.

As a contribution towards the creation of a national system, and as a link between the two main experiments conducted by EBNA and OBNF, other initiatives were involved:

- the Excelsior project promoted by Unioncamere[29], to measure the actual and potential demand for trades in the various geographical catchment areas (at provincial level), in order to offer information and support to those providing guidance on the supply of labour in the light of the requirements expressed on the demand side, or promoting a direct match between labour supply and demand. Another objective pursued by this project was to guide the choices of institutional decision-makers on schooling and vocational training policy, offering detailed information on the occupational skills needed over the short and medium-term future as expressed by employers; and
- the Chirone 2000 project, set up by the bilateral body with the same name, with the aim of identifying the medium-term needs for vocational competences among leading Italian producers and administrators of the most significant networked services within the Italian territory.

The following institutions played a major role in the survey and in the prediction of needs with the aim of providing information for the planning of training: the Ministry of Labour, ISTAT, the Regions and the local authorities to which responsibility is delegated, for example via the Labour Market Observatories and the Employment Agencies, and - very importantly - through the social partners and trade associations. Beside these, the *Istituto per lo Sviluppo della Formazione professionale e l'Orientamento dei Lavoratori* (ISFOL), a public national research and development body, has for many years been active in the field of surveying needs. In the early 1990s, it was responsible for a preliminary census of experience with the analysis of needs in certain local contexts. This revealed some dissociation between the objectives and the logic of the work, a gap between the information needs of the departments responsible for the planning of training and the work of the bodies appointed to compile and analyse facts and figures on trends in the occupational and training requirements of the production system. In the light of the considerations emerging in this preliminary survey, since the early 1990s ISFOL has promoted and conducted a series of research activities - at local, national and international level - directed towards identifying suitable methods and/or procedures for the determination and analysis of occupational and training needs. The annual reports published by ISFOL give an account of the thinking and work of the Institute's researchers on more innovatory needs' analysis initiatives in Italy.[30] Over the years, there has been undoubted progress both in modelling and in the technical instruments used. Nevertheless, there are still certain weaknesses due to the fact that the occupational and training needs surveys generally collect facts and figures directly from the companies themselves, which often find it hard to identify their own needs and prospects. Furthermore, the demand for labour does not come entirely from companies: account should also be taken of the needs generated by the community and by the authorities. It should also be pointed out that in Italy the demand for new concepts, instruments and methods has been linked mainly with the need to develop training policies, and this has affected the acceptance of needs analysis by the training planners.

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[28] The bilateral bodies were set up on a joint basis by the employers' associations and the trade unions

[29] Unioncamere is a federation of Chambers of Commerce

The efforts deployed in Italy over the last years were not yet been backed by an overall reference framework; in other words, even today there is no technically and conceptually coherent national system agreed at central and local level, on both a geographical and sector level basis. Only recently have the institutions devoted more attention to the creation of a national reference system for the analysis of needs, as has been pointed out. In the light of the outcome of the first national experiments carried out by the bilateral bodies with the technical support of ISFOL, it is hoped that a permanent, updateable national system of surveys of occupational and training needs can be set up.

Over the past two years and in the coming year, ISFOL, commissioned by the Labour Ministry, is providing technical support not only to project promoters in the implementation of investigations but also to the National Co-ordination Committee[31]. As a member of this Committee, its functions are to provide information on progress with projects, propose the development of methodologies for the system of monitoring and assessing experiments, receive inputs with a view to defining a national survey system, assess the outcome of projects, contribute to the definition of a complex, structured system (centre vs. regional/local and vice versa, etc.) for the surveying of needs, identifying working instruments for managing the system and specifying the roles and parties involved to operating the system.

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[30] See ISFOL Report, Franco Angeli , Milan (1990 to 1998)

[31] The Ministry of Labour, the Regions, the social partners and ISFOL are represented on the National Coordination Committee.

Summary of needs analysis approaches and methods in Italy

Over the past few years, a more searching consideration of certain important links within the training system and the method of labour market management has forced all the parties involved - central and local institutions, the social partners, training and research bodies - to adopt a holistic rather than the previous ad hoc response to the problem of needs analysis. For some years now, many geographical and sector bodies have set up projects focusing on the theme of needs analysis. In the absence of any national reference framework, their approaches have to differing degrees been discrepant. Even so, the proliferation of such initiatives has forcefully demonstrated the ever firmer conviction, at every level of responsibility, of the need to arrive at an integrated needs analysis system on a national and local basis as a key instrument for the support of training policies. As stated, to translate this awareness into concrete action, the Ministry of Labour and the social partners have arrived at agreements on the experimental management of significant initiatives in the field of needs investigation.

The first two experiments launched in 1996, under the Framework Convention stipulated by the Labour Ministry, the Regions and the social partners, were conducted by OBNF, set up by the employers' federation, Confindustria, and the trade unions Cgil-Cisl-Uil, and by EBNA, set up by the craft trades associations and Cgil-Cisl-Uil. Both of these are consultative bodies created in pursuance of agreements reached among the parties on training and labour policies, providing for the joint representation of both employers and unions. These experimental ventures are combined with the national experience of the Excelsior scheme conducted by Unioncamere. As things now stand, these are the main experiments on needs identification at national level. They are of enormous importance in that they provide a preliminary, practical reference for the launching of a process whose ultimate goal is the construction of a national needs analysis system.

Since these activities are still under way, we are not yet in a position to report in detail on their progress, but it may be helpful to describe the main features of the three projects.

The OBNF "needs analysis" project is in two phases. In the first, the objective is to set up a system for the identification of vocational needs as expressed by the employers, whereas in the second the aim is to set up a system for the identification of and possible developments in the needs for competences. In the first phase, procedures will be developed for the identification and structuring of employers' occupational needs to be used to create a system that can be updated from time to time. The methodology proposed can be used in breaking down the demand by qualitative parameters to identify types of training, known as "training method archetypes". For each of these archetypes information is compiled on the knowledge required for the specific skills required and the transferable core skills associated with them. The archetypes are checked with the employers to determine whether they exist, the outlook for their development and how readily they can be found. In the final part of this process, the findings on the three variables - existence, development and findability - will be processed and two indicators identified: the "rate of presence" and the "tension index". By cross-referencing these two indicators, guide maps for the training system can be drawn, showing the *critical needs, emerging needs, fragile needs and declining needs*. In the analysis of the need for competences, the first step is to arrive at a typology of competences and to verify the facts and figures in companies by means of a special questionnaire. The next step is to set out these competences in the light of strategic, organisational and management trends within companies.

The aims of the EBNA project, "National survey on training needs in the craft trades", are to identify the *training needed for the occupational competences*, present and future, of those working in the craft industry, to construct a *permanent and updateable system of monitoring the needs for competences,* to analyse the *existing and future needs for qualifications* of employees and those embarking on work in the sector, and to formulate *proposals for the proper administration of the labour market* in this sector. The method adopted is to define the *craft unit*, in the sense of a reference occupational unit, through interviews of a qualitative sample of companies and experts in the field, followed by a survey extended to a representative sample of the craft trade universe, obtaining responses to a detailed questionnaire.

The Unioncamere project, "Excelsior: employment and training information system", has adopted a mainly quantitative model of investigation. The general objective is two-fold: to construct a model of information on the dynamic structure of the demand for labour expected by employers, and to provide information for the vocational guidance and the planning of educational and training activities and labour policies. The information supplied by Excelsior provides a picture of salaried employment in the whole system of significant companies at provincial level, whereas the predictions (such as which occupations will be required, how many over the next two years, in which areas and the types of company) will be those having regional significance. The methodology will be structured in two logically integrated phases. In the first phase administrative data will be compiled from existing official sources and, by attributing stratification criteria for the companies, a picture will be drawn up of the structure of employment by region and province, the size and the economic activity of local units and qualifications. In the second phase there will be a sample survey of significant regional companies, and two separate types of information will be compiled: in small firms, information will be obtained by means of the computer-aided telephone interviews (CATI method); in large and medium-to-large concerns, there will be face-to-face interviews. The combined use of administrative data and information compiled in the field can be used for a dynamic definition of occupations and occupational criteria through the Bottom-Up Multicriteria (BUM) method. This is based on cross-referencing five descriptive criteria: company function, economic activity, area of knowledge required, level of education and training, and level within the company and size of the company.

The experience acquired through the experimental ventures and the implementation of the national and bilateral bodies' projects being promoted by the Ministry of Labour are vital steps in the construction and definition of the process of needs analysis. The role of the projects is to help find a technically sound and reasonably consensus response to those problems and critical points that need to be tackled when designing a national system of needs observation and investigation. The critical points are the interfaces between qualitative analysis and quantitative analysis, between the geographical analysis and sector analysis, and to some extent these are being clarified by the preliminary results of the projects. Another aspect to which further detailed thought should be given is the relationship and type of use and verification of the findings for the purpose of planning[32] local-level training initiatives. The aim should be to clarify and simplify the relations between training analysis, planning and provision, which up to now have been disjointed and intrinsically weak. A further element to be assessed in the design and creation of a national permanent, updateable occupational and training needs survey system is the contribution made by local and sector experience. The synergy between local and national experience is of the utmost importance, as these two forms should also provide a reference framework and standards in order to make local initiatives more uniform. Although it is now a common practice to determine needs at local level, the many initiatives that have been implemented have suffered from a lack of references and standards, and on occasions this has prevented them from extrapolating points of common interest and above all from making comparative assessments.

Predicted needs analysis in Italy

New scenarios are expected following the changes in the legislative framework launched in 1996 when the Labour Pact was signed, laying the foundations for the reform of the labour market. The basic principles of this Pact are greater flexibility of the rules for the operation of the labour market, decentralisation of primary functions to local bodies and the opening out of the management of employment services to the private sector. The Pact also triggered off all the subsequent legislative measures for an active labour policy and a reform of the Italian vocational training system. The reorganisation of the training system is now almost complete, with a move towards ever greater integration between the training and educational systems, which have traditionally been separated in Italy by coming under the Ministry of Education, the Ministry of Labour and the Ministry for the Universities and Scientific Research. The main innovations have been to raise the period of compulsory education to the age of 15 and to introduce an obligation of education or training up to the age of 18. This obligation may be met through school channels, through vocational training channels or through apprenticeship. To upgrade and expand the provision of training for young people and adults, both employed and unemployed, a system of higher technical education and training has also been established. In reorganising vocational training in Italy, a central role has been assigned to the certification of competences and training credits. There are plans to set up a national system for the certification of vocational skills.

In this context, besides the requirement for needs analysis - an idea that has now become firmly established - as the vital factor in linking training and the production systems, it is becoming increasingly urgent to define a national system for the observation and determination of occupational needs.

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[32] In Italy the regional authorities enjoy full autonomy in the management of vocational training below university level.

The striking feature of this new and historic phase is the strong role performed by the social partners in both local and national needs determination initiatives. Despite the proliferation of these initiatives and the commitment of all the parties involved, however, the problem of determining needs does not seem to be close to a solution. The situation is made even more complex by various problems. One is that the surveying of needs consists of a wide variety of activities, differing in approach, goals, methods, the outcomes and their use. Investigation directed towards the management of the labour market differs from investigation in support of policies for the planning of training, and even more from investigation directed towards the planning of training initiatives. In addition there are conceptual difficulties such as the definition of occupational skills, qualifications and competences, and methodological difficulties such as the difference between the determination, analysis and anticipation of needs.[33] Furthermore, it is one thing to discuss the need for occupational skills and the need for training: although they are complementary, they are separate phases in the construction of a training service, adopting different approaches and instruments and being aimed at different target groups. The central problem in this line of activity, however, is the difficulty of reconciling the specific requirements of companies with the broader aims of training.

In the case of Italy, a further point to be made on the subject of the analysis and prediction of needs is the fundamental weakness of statistical sources, as essentially they provide information at a specific economic juncture or attempt to highlight various characteristics of the supply side, without shedding enough light on the characteristics of the demand side for labour. A second point is the disadvantage of the overlapping of competent bodies and their levels of action. One requirement noted by many people is that of defining unambiguous, homogenous criteria for information on labour so that consistent, integrated systems can be constructed.

We should point out that the findings of the preliminary national experiments conducted by the Bilateral Bodies and Unioncamere are expected to produce indicators that can be used in the creation of a permanent, updateable national system of surveys of occupational and training needs. As early as in the year 2000, as part of its task of providing technical support to the National Co-ordination Committee, ISFOL will be undertaking an assessment of the results of the projects, and information should be derived from these helping to define a model that will presumably be complex and structured on several levels. In response to pressure from the Regions, ISFOL is taking on the task of linking and managing the flows of information between national projects and the many needs analysis activities conducted at local level. Over the next few months, a further five national experimental projects will be added to those launched in 1996, which are now under way. These are projects promoted by the bilateral bodies in the agricultural, banking, tourism and media sectors and the association of small companies. At the same time there is a proliferation of local initiatives pursuing greater effectiveness than in the past, although these also urge the need to standardise at national level with a view to creating a system. There is, therefore, recognition of the advisability of devising a model that can be used to tackle the planning of training, combining the pressures of demand from the production system with a thorough analysis of the social morphology of local sub-systems. The objective here is to interpret the need to expand the capital of human resources in the light of local imbalances, specialist industries and specific features, while taking an overall view that directs national policy decisions and helps to bring about the conditions for equal opportunities and recognition for all citizens.

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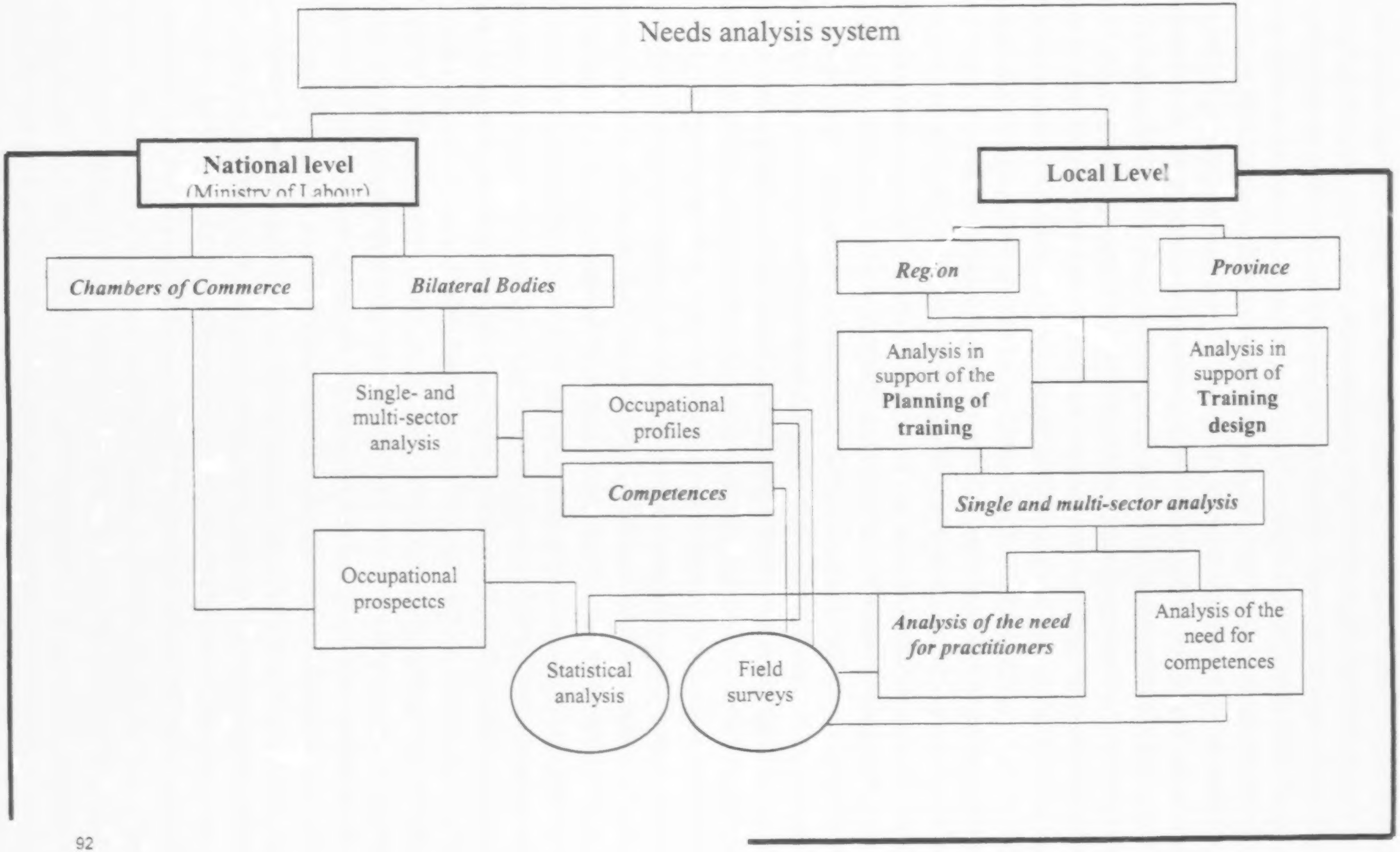
[33] *Determination* means the compilation and ordering of the needs explicitly expressed by the production system; *analysis* is a broader concept in that, besides determining the needs expressed, it identifies and interprets latent but as yet unexpressed needs, through the filter of the analyst; *anticipation* is a concept that looks ahead to needs that do not exist today but might exist tomorrow if certain conditions arise.

The proliferation of national and local experiments is complicating and at the same time stimulating the scenario in which, through institutional engineering - there being so many bodies involved - a national needs determination system can be created that is rational and lends itself to regulation. The current administrative reforms, the simplification of procedures and the transfer to the public sector of management instruments that used to be specific to the private sector, are creating the prerequisites for improving efficiency and are paving the way for the authorities - both central and local - to take on a role of promoting development and employment.

CEDEFOP (2000): 'Anticipation of Occupation and Qualification Trends in the European Union'


Needs analysis system
National level
(Ministry of Labour)
Local Level
Chambers of Commerce
Bilateral Bodies
Region
Province
Single- and multi-sector analysis
Occupational profiles
Competences
Occupational prospects
Analysis in support of the Planning of training
Analysis in support of Training design
Single and multi-sector analysis
Analysis of the need for practitioners
Analysis of the need for competences
Statistical analysis
Field surveys

10. Luxembourg

Marc Ant

To meet the demands of a radically changing economic and social environment, the Luxembourg government has taken a certain number of initiatives in the field of vocational training in the 1990s: a framework law on access, financing and certification of continuing vocational training[34]; the establishment of a National Centre for Vocational Training; and the creation of the National Institute for the Development of Continuing Vocational Training. Alongside these structural and institutional initiatives, numerous projects financed by the Leonardo da Vinci programme, surveys such as CLEVER, or projects initiated by the Ministry of National Education and Vocational Training, such as the PROF project, have contributed, through practical steps, to the development and organisation of vocational training in the Grand Duchy of Luxembourg, both at initial training level, and at the level of continuing training. As regards the implementation of a vocational training system in Luxembourg, it is quite clear that the social partners are playing a major role by setting up many committees on a tripartite basis. However, as regards the use of methods, tools and instruments for the anticipation of qualifications and skills, it is also quite clear that in Luxembourg we are dealing mainly with a situation of retraining responding in a specific way to well-defined needs. To a large extent this holds true both for businesses and for the public or semi-public agencies, and it applies increasingly to measures in favour of the unemployed and job-seekers. What is still lacking in Luxembourg is the existence of institutions which would act as a public technical support service in matters of vocational training, and would allow firms to position themselves more proactively in the vocational training market.

Recent developments in the vocational training system in the Grand Duchy of Luxembourg

Luxembourg, both geographically and from a purely economic point of view, is part of the international system of the most successful economies. This means that the major economic players in Luxembourg, wishing to meet the challenges of a radically changing economic and social environment, must satisfy the new demands for skilled individuals by taking appropriate measures for continuing vocational training.

However, it is clear that Luxembourg has neither the framework nor adequate structures or infrastructures to overcome the obvious existing shortcomings. In this situation, the Luxembourg government has, in the last few years, set up new, successful structures which are directly concerned with continuing vocational training. The government view is that while there is a need for general regulation in this area, it is important not to stifle the emerging dynamic of this market with over-centralised, excessively coercive measures; but this by no means implies approval of the opposite extreme, i.e. complete liberalism. The government therefore intends to confine itself to its role of co-ordinating and defining the framework in which the market can develop.

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[34] At the time this article was being prepared, the new framework law was at draft stage.

With this in mind, three basic courses of action have been or are currently being initiated:

1. The Economic and Social Council has drawn up a memorandum setting out the basis for a legislative bill which will lay down the overall regulations for the continuing vocational training market in Luxembourg, with reference to the following points:

- access, financing and certification of continuing vocational training;
- the second route to qualification;
- economic, political and social training for the citizen.[35]

2. The government sees its second mission in the creation of an adequate infrastructure adapted to the needs of the Luxembourg market, taking account of its functions in the wider region (*Grande Région*). A new National Centre for Vocational Training (CNFP) was set up in the south of the country and was inaugurated in May 1999, and the existing Centre in the north was adapted to current needs.

3. Thirdly, because it does not believe the State is the only driving force which will energise the market for continuing vocational training, the government has decided to set up, under the Law of 1.12.1992, a National Institute for the Development of Continuing Vocational Training (INFPC), with a view to developing activities of introductory training, recycling, reconversion and skills upgrading, while implementing projects to promote technological progress and educational innovation.

Alongside the government's wish to set up a material infrastructure with adequate support for firms, a certain tendency has begun to manifest itself in the clauses of agreements, since a growing number of collective labour agreements include vocational training as a requirement for promotion. The sectors which most typically exemplify this tendency are: the banking sector, the retail sector, the air transport sector, the garage sector, and the iron and steel sector.

However, Luxembourg's economy is also faced with serious problems of rising unemployment. Looking at unemployment among young people and adults, we see that the level of unemployment has doubled in the last three years, with 6,503 unsuccessful job applications in January 1997 (as against 825 unfilled job vacancies), including 623 school-leavers and 3,308 completely unemployed people receiving unemployment benefit (Report of the *Comité de Conjoncture*, January 1997). In response to this, the Luxembourg government has recently introduced a large number of measures, including the Law of 31 July 1995 on employment and vocational training. The particular aims of this recent law are the provision of financial support for firms wishing to take on trainees for a *stage* (training period), better training for job-seekers, and recruitment of job-seekers with post-secondary education to assist the directors of post-primary educational establishments in a certain number of tasks.

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[35] Following this memorandum, an inter-ministerial commission drew up and discussed various preliminary bills concerning the first of these three points. A final version was put to the vote in the Chamber of Deputies in May 1999.

In addition, the Minister of National Education and Vocational Training, by the Ministerial Regulation of 16 September 1996, set up a tripartite consultative committee on vocational training which is called upon to give is opinion prior to the adoption of necessary measures in the field of initial vocational training and continuing vocational training, in order to achieve better co-ordination between the objectives of vocational training and the needs of the various sectors of the Luxembourg economy. This committee co-ordinates the activities of the relevant ministerial departments, particularly on the question of anticipating the requirements for vocational training. It works on the basis of an examination of the overall socio-economic situation and an analysis of the jobs and unemployment situation, which are carried out by the tripartite co-ordinating committee set up by the Law of 24 December 1977, which authorises the government to take steps to stimulate economic growth and maintain full employment.

The new framework law on continuing vocational training[36]

First of all, it should be pointed out that the report gives for the first time in Luxembourg legislation, a legal definition of continuing vocational training, as training which is subsequent to school education.

Article 1 (1) of this bill stipulates that "Continuing vocational training, within the meaning of the present law, ….., includes all activities of training or education, other than school education or training, aimed at:

- adapting the qualifications of the worker and the head of the firm, by bringing their skills into line with the techniques and technologies of organisation, production or marketing;
- retraining the worker and the head of the firm with a view to giving them access to a new professional activity;
- promoting the worker by preparing him for tasks or positions which are more demanding or which involve greater responsibility, and developing skills and potential which have been unused or under-used."

Those who stand to gain by the provisions of the law on continuing vocational training include all wage-earners affiliated to Luxembourg social security and linked by a contract of employment to a firm lawfully established and carrying out its activity primarily on the territory of the Grand Duchy of Luxembourg. Others who are affected are the heads of commercial, industrial or craft firms, and the heads of farming and forestry businesses lawfully established in Luxembourg. Furthermore, following the introduction of the law of 12 February 1999 on the implementation of the national plan of action for jobs 1998, a "restrictive conception" of the range of people benefiting from this legislation is no longer appropriate. The law of 12

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[36] Report of the Commission on National Education and Vocational Training (12.5.1999) of the Chamber of Deputies, Ordinary Session 1998-1999, concerning the bill relating to: 1. the support and development of continuing vocational training; 2. amendment of the amended law of 28 December 1988 regulating access to skilled manual, commercial and industrial occupations and also to certain professions, pages 2-4.

February 1999 requires the social partners to include vocational training in their collective agreements, and "in particular, a broadening of opportunities for training, job experience, training periods, apprenticeship or other measures aimed at facilitating absorption into employment, especially for the unemployed, and the development of the possibilities for training throughout life." This is why it was decided to extend the scope of application to job-seekers and to people who are on leave for any reason or who have voluntarily left their firm.

The document also governs the right to establish organisations of continuing vocational training. It expressly retains the provisions currently in force (Article 47 of the Law of 4 September 1990 on reform of secondary technical education and continuing vocational training), entrusting the organisation of continuing vocational training, subject to agreement, to the professional guilds, the communes, and the Ministry of National Education. The right to establish a continuing vocational training organisation will be regulated by the generally applicable law in this matter. In this case, the right of establishment, on the basis of the amended law of 20 December 1988, will be granted by the Minister for the Middle Classes, on the advice of the Minister responsible for continuing vocational training. The requirements which must be met by a continuing vocational training organisation, in terms of quality and recognised standing in matters of management and training, are laid down by regulation of the Grand Duchy.

The present bill opts for collective access to in-house continuing vocational training under terms set either by a relevant collective agreement, or by a training plan, or by a training project. The term "training plan" should be understood to mean a general, coherent concept of training developed by a firm for all its wage-earners and extending over a given period. The training project, on the other hand, is confined to a specific training activity intended for a particular section of the wage-earners over a relatively short period (e.g. the need to adapt part of the personnel to a new technology).

As regards the financing of continuing vocational training activities, it should be pointed out that the State contribution is made, at the firm's choice, either in the form of direct support or in the form of an income tax rebate determined on the basis of the cost of the investment made in continuing training during one or more financial years. The State contribution, whether made on the basis of direct support or a tax rebate, is 10% of the cost of the investment in continuing training. However, the State contribution only comes into effect in so far as the total continuing training costs incurred by the firm in the financial year exceed 0.5% of the average of its wage bill for the last three financial years.

The banking sector, and probably large firms too, may be expected to prefer a state contribution in the form of a tax rebate, while small and medium-sized firms will opt for direct support. Direct financial support by the State will call for additional budget allocations. An estimate made on the theoretical basis of maximum use of the state subsidy by all Luxembourg firms gave a total annual cost (direct support and tax rebates) in the region of 1.5 billion francs. This estimate was based on the hypothesis that all firms would invest about 3% of the total wage bill in continuing vocational training, which corresponds to the percentage invested in this sector by their direct competitors in neighbouring countries.

The last two chapters of the document deal with the protection of investment in vocational training, and certification and recognition of certificates. The last chapter introduces a fundamentally new element in that it specifies that "for continuing vocational training which represents a general benefit to the national economy, a modular system, using cumulative units, may be established by regulation of the Grand Duchy, when the professional guilds have been consulted." (Article 12). In other words, the accumulation of a series of certifications obtained in the context of continuing vocational training may lead, under specific conditions, to a diploma or certificate of the initial school system. This is an important innovation which corresponds to a modern concept of validation of continuing vocational training, and which is increasingly being applied in Europe.

This proposed law strongly emphasises the need to implement continuing training programmes drawn up in response to the specific needs of different firms. To this end, preliminary audits of firms' operations will aim to determine the continuing training requirements and to create "made-to-measure" training programmes for specific firms. The general philosophy behind the bill aims to promote the development of custom-made programmes by giving responsibility to firms and the employers' professional guilds. State financial support is only allocated to individual firms which will then have every interest in making the best possible use of such support.

Other initiatives

In addition to these legal and structural measures by which the government intends to develop and stimulate the market for continuing vocational training in the Grand Duchy of Luxembourg, we should also mention that a large number of initiatives have been undertaken in this sector thanks to the support of European programmes and initiatives, particularly the Leonardo da Vinci programme.

As regards the nature of the promoters for the three calls for Leonardo da Vinci proposals for Luxembourg, it should be pointed out that it is the Ministry of National Education and Vocational Training, or organisations directly or indirectly linked to it, which plays an important role not only in the national running of the programme, but also in taking initiatives and implementing projects. The recommended approach can be summed up as follows: in addition to the structural and legislative measures, the agencies of the State, in close collaboration with the social partners, should develop model projects to enable other organisations or public or private institutions to benefit from the experience gained and transfer it to other contexts.

We note, in particular, projects which fall within the socio-pedagogical category, where particular emphasis is placed on the training of instructors and tutors, or people working in the field of qualifications for the unemployed, or those working as companions for people with handicaps such as autism, or specialists in the social and occupational integration of women in particular. The emphasis in most of the initiatives is placed on a rationale of training for people who are to work in a "relay" or intermediary capacity or as companions for the handicapped; this reflects the wish of the Luxembourg public authorities to ensure the widest possible diffusion of the Leonardo da Vinci projects.

The first significant results of the work undertaken in the framework of the Leonardo da Vinci projects can be seen in the fact that the experience gained has already served as a model for similar initiatives in other contexts. An example of this is the project focusing on community service jobs for people without job security in certain communes, which was taken up by other communes with a view to developing a more global approach in this sector in the country. In the same context, a Leonardo da Vinci project has contributed, through the medium of vocational training, to the restructuring of a certain number of firms. Another project has even extended its field of activity: the results of a Luxembourg project on the logic of skills evaluation have given rise to a university degree course in France.

Given the way in which the partnership working on the Luxembourg projects is structured, with state agencies and social partners strongly in evidence, it hardly needs to be said that the impact on the system and on policy is a foregone conclusion. In particular, we note a project managed by the research department of the Ministry of National Education and Vocational Training, which concerns the development of new apprenticeship courses on a sandwich course basis, whose impact will be felt at least in the fact that the curricula developed will be integrated into the training system as such. But it is understood that in terms of impact, the anticipated effects of the Luxembourg projects on the system will only manifest themselves indirectly, i.e. the pilot projects which have been carried out will be adapted and scaled down to other contexts, and the real impact will be seen in their generalisation and a "bottom up" approach. As an example, a 1996 project in the sector of large sales floors, continuing the steps already taken under the FORCE programme, incorporated its results into the collective agreement in this sector.

Skills' evaluation and training systems' development

In terms of research on skills and qualifications, it is worth mentioning that a study was carried out between 1996 and 1998, under the direction of the National Institute for the Development of Continuing Vocational Training (INFPC), on skills evaluation as a crucial part of human resources management.[37] The CLEVER study aims to reveal the extent to which management decisions are based on the skills evaluation practices initiated by firms. In this context, the National Institute for the Development of Continuing Vocational Training (INFPC) has undertaken a closer study of the effectiveness of the link between skills evaluation systems and the definition of training needs at collective and individual level. This study deals with the evaluation practices of firms which promote the definition of collective or individual training needs as one of the objectives clearly assigned to their evaluation system.

This link seemed, at first, to be clearly established. Training appeared to be the preferred terrain of the skills' rationale, since the term *skills* itself was widely used in the world of training. In fact, this question is far more problematical than it would seem, particularly in terms of the number of participants that it implies. The effectiveness of the link between evaluation systems and training systems is subject to several mutually independent variables.

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[37] Szylar, C (1999); "Die Evaluation von Kompetenzen und ihr Verhältnis zum innerbetrieblichen Weiterbildugssystem", in: *Grundlagen der Weiterbildung* (10) 2, 68-70, Gilbert, P & Schmidt, G (eds.) (1999); *Evaluation des compétences et situations de gestion*. Paris: Economica.

This study seeks to establish a clearly identifiable link between the lack of skills which has been noted, and its translation into workable educational objectives. It has been shown that the link between evaluation systems and training systems presupposes the existence of workable objectives. This translation into real and realistic terms can be achieved by describing the nature of the objectives unambiguously and clearly, identifying the activity in terms of observable behaviour or measurable production, and precisely specifying the conditions under which the required behaviour occurs, indicating the level at which the individual's ultimate activity should be situated, and finally evaluating results by using specific criteria.

The empirical study of various firms carried out as part of the CLEVER project made it possible to identify certain key processes involved in any implementation of an evaluation system. It was clearly apparent that the application of the logic of skills evaluation, whereby training needs can be defined, requires much greater methodological rigour and caution for maximum achievement of results. Firms which have been able to link skills' evaluation and training systems' development have worked out their general training policy on the basis of their development strategy. Effective management decisions are the outcome of defining the firm's strategy. Training is an integral part of this and must be identified and formalised. The evaluation system will be able to position itself in relation to the strategy of the firm and take on its full meaning in relation to the various participants. In firms where the level of return (effective link between evaluation and training) was low, the firm's strategy was ill-defined, so that training was confined to a managerial *no man's land*. The benefit and importance of training in implementing a firm's policy varies considerably from one firm to another, hence the need to make a strategic choice in the matter of training. Defining the firm's strategy is the first stage. Skills evaluation and the training system will find a common direction in relation to the management's wishes.

The challenge lies in managing the information from the skills evaluation systems in such a way as to allow well-founded management decisions. This cannot be done without effective management tools. According to the classical definition of management, management means narrowing the gaps. Management also consists in the overall guidance of a process in order to arrive at the decision-making stage. This management problem takes on its full meaning when organisations wish to link their skills evaluation systems to their training systems. The firms studied can be categorised according to their level of preoccupation with management tools. Investment in a complete system of tools poses problems of cost (in terms of time and personnel for designing, testing, linking, managing, adapting and improving these tools), of complexity (some management tools are difficult to put into operation and difficult to master), and of effectiveness (risks of *"gasworks"*). These management tools may take the form of analysis of the existing manpower and skills, the characteristics of the existing jobs, the state of the human resources, a projection of jobs and human resources into the future, the internal communication tools, management tools for job versatility of personnel, the training plan, and the tools for verifying the consistency of the training plan, etc.

Businesses which have not had the ability or knowledge or willingness to develop management tools have chanced their luck with risky management decisions on questions of training. Such decisions, being unfounded, unrelated to the employees' real training needs, and unrelated to the organisation's needs for skills that would enable it to achieve its strategic aims, have proved ineffective.

The effectiveness of the link between skills evaluation systems and training systems depends entirely on the position occupied by management tools before, during and after the process. The correlation between the effectiveness of skills evaluation systems and the use of management tools is apparently difficult to measure. This state of affairs may hinder strategic decision-making on questions of human resources. In most cases this accounts for the failure to take decisions based on the results of the evaluation.

Management tools do not always provide the necessary information for the evaluation process. But organisations cannot rely solely on management tools. These tools only take on meaning through the way in which they are conceived and used in the organisation. The intrinsic value of the tools is certainly crucial, but the way in which they are used is equally important. They are effective provided that certain conditions are met within the firm. It is openly acknowledged that training and other means of adjusting skills (in quantity as well as quality) vary greatly in relation to the apprenticeship potential within the organisation. Measurement of skill gaps and development of management tools are pointless if work organisation remains hidebound, rigid, and a drain on resources.

It is equally difficult to handle the mass of information supplied by the evaluation system if there is no computerised management system. The investment in a computerised system appears to be too high and insufficiently operational for the firms which were studied. However, the features of certain types of software currently available on the market would be a means of overcoming the difficulties encountered by the firms.

In addition, work analysis is an essential stage which is crucial to the effectiveness of the link between evaluation systems and training systems. According to the companies observed in this study, management decisions in relating to training have to be based on a work analysis method geared towards training. These work analysis methods have not been specifically designed for training, but have been adapted with varying degrees of success from this point of view. This type of analysis could provide an explanation for the problems currently encountered in firms. These methods were mainly the work of organisers or ergonomists, or were adapted to the needs of forward-looking jobs and skills management. However, among the cases studied, the people responsible for training sometimes have no work analysis method, and confine themselves to a simple summary of the constraints of the work context, and the adoption of methods intended for other management purposes.

In the light of the firms which were studied, it has been possible to conclude that the link between the effectiveness of evaluation systems and that of training systems appears to be well established. Previously, the content was based on the internal logic of the field of knowledge. Now, skills logic is centred on the logic of acquiring trained personnel. This logic has also led the participants to take account of the specific characteristics of the public, which represents a clear advantage for wage-earners. Training is now inductive rather than deductive. Training is verifiable thanks to skills logic. In fact, training objectives are easier to measure if they are drawn up in terms of skills to be acquired. However, for Luxembourg firms in particular, it is probably generally true to say that the question of skills evaluation seems to have been limited to the managerial act alone, and has not yet gone beyond this stage to become part of skills management. Skills are evaluated with varying success, it is true, but as a rule they are not yet adequately managed, as any other strategic variable of the firm would be.

General considerations and conclusions

Alongside this project which seeks to broaden the theoretical framework, two additional projects should be mentioned, both of them under the auspices of the Ministry of National Education and Vocational Training. Firstly, there is the project entitled PROF ("Projet fir d'Objektiver vun der Formation Professionnelle ze formuléiren"), which represents a wide-ranging operation of revising the content of curricula and reforming the content and methods of initial vocational training in the middle and upper cycles of education. The objective is to define the needs and the exact profiles at all these levels of training with a view to adapting the methodology, didactics, curricula and course content. The PROF project is currently being put into practice. Secondly, mention should be made of a preparatory study whose long-term aim is to adapt the vocational training cycles provided for unemployed young people within the newly created National Centre for Vocational Training. Under this project, which is still at the analysis stage, a functional analysis of the Centre is being undertaken. A second stage envisages adequate training for instructors, and the creation of curricula more appropriate to the needs of the Luxembourg labour market.

However, in neither of these cases does the project allow us to conclude that structured approaches exist in the Grand Duchy of Luxembourg in terms of analysis and anticipation of new skills. This observation applies equally to firms and to state organisations. Furthermore, it has not been possible to identify indicators, which enable us to conclude that analyses concerning new skills have direct repercussions on the vocational training systems in Luxembourg. In this sense, there are no methods for transferring the results of research to the training systems. Legislative provisions which do regulate the functioning of the initial vocational training system and that of the continuing vocational training system are of a very general nature. The implementation of individual, innovative projects takes place at an individual level, project by project. In all cases, decision-making in the field of vocational training takes place according to the methods of the tripartite system. Social partners are involved to various degrees and at various levels in this process, particularly through their presence on the Economic and Social Council, through their membership of various working groups or management boards set up by the Ministry, and lastly, by virtue of the fact that the employers' and wage-earners' guilds are invited to give their opinions, particularly about the legislative bills issued by the Ministry of National Education and Vocational Training.

On the other hand, although the inclusion of continuing vocational training measures in collective agreements is increasingly common practice (e.g. collective agreements in the banking sector), these contracts generally do not take account of new, systemic considerations. Likewise, although the bill aiming to support and develop continuing vocational training makes explicit reference to this, it has to be said that at present, the evaluation of methods, if they exist and are applied, cannot be considered a widely established approach.

Lastly, in the light of an analysis of the situation in the Grand Duchy of Luxembourg, it is clear that the general approach recommended by state agencies in the field of initial and school vocational training consists in continuously developing and adapting the training curricula through an ongoing dialogue between state authorities and specialist representatives of firms. In the field of continuing vocational training in relation to firms, the role of the State is limited to the creation of a legal and conceptual framework, which has the aim of energising the training market. It is therefore the role of the firms to comply with these provisions, while developing an individual approach adapted to their specific needs.

Direct intervention, in particular financial interventions, are only made by the state authorities in case of training for the unemployed and for job-seekers. In this case the State, through specific funds, takes steps to ensure the vocational insertion of these target groups in response to direct demand from particular firms or sectors of economic activity, by organising and financing training measures.

In all cases, the use of methods, tools and instruments for the anticipation of qualifications and skills cannot be assimilated into a common, recognised approach in the vocational training market in the Grand Duchy of Luxembourg. It is in this respect that a critique of the new bill on vocational training would be appropriate. This proposal confines itself to the implementation of training plans in firms, and regulation of access to the profession of training structures manager. It in no way envisages the creation and introduction of these instruments and tools. But energising a market also means making it more professional, so it would have been wise to make provision, also within the framework of this new law, for technical and scientific structures which would allow these tools to be developed and made available to firms. Since the economic fabric of Luxembourg is largely made up of very small firms or micro-enterprises, it is important to give these firms the means of technical support to enable them to analyse and anticipate the skills which they have at their disposal, or which they need.

As regards the efficiency with which the Luxembourg vocational training system is adapting to the changes brought on by the industrial transformations, there is no doubt that the proximity between state agencies, professional guilds, firms and training providers must be regarded as a great advantage. There are few administrative changes, and the recommended approach is one of pragmatism. On the other hand, at the institutional and legislative level, the implication at all levels of the decision-making process of a large number of agencies, work groups, committees and boards, is that there is also a certain slowness and cumbrousness in the implementation of relevant provisions. For illustration it should be mentioned that the first discussions in the Economic and Social Council concerning vocational training date from the beginning of the 1990s, while the final proposal concerning the framework law was not submitted to Parliament until 1999, a few weeks away from the national legislative elections.

In our opinion, the only way to improve the level of efficiency is to create and establish an institution whose objective would be: 1) to function as an observatory monitoring the development of qualifications and skills, and 2) to develop and make available to firms the necessary methods and tools for identifying and anticipating new skills and qualifications. We believe the problem of vocational training in the Grand Duchy of Luxembourg lies not so much at the legislative and structural level as at the level of technical support – which is certainly still in short supply in Luxembourg

11. The Netherlands

Ben Hövels

Major developments in the VET system in the Netherlands have been initiated following reports from two government committees set up after 1980 and a new Education Act, implemented in 1996, which (re-)directed policies in this area.

Priority has since then been given to finding an optimal match with developments in the labour market and to comprehensive provision of starting qualifications. New roles for the state, the education sector and trade and industry were created with the setting up of 21 National Boards for Vocational Education (LOBs). The Boards introduced the principle of "joint responsibility" (shared between the state and the other parties involved) and now play a central role in developing and maintaining the national system of qualifications. Another aspect of the new legislation was an emphasis on vocational training and, in particular, the concentration of vocational courses within administrative and organisational units, known as Regional Vocational Training Colleges (ROCs), which enjoy a degree of administrative and financial autonomy. The ROCs facilitate the creation of programmes capable of meeting the needs of regional trade and industry.

As far as research is concerned, the two approaches which dominated this area until the nineties were not extremely effective in their labour market analysis nor in predicting future needs. Methods to combine both approaches were introduced, among whcih the "combi-model" and the "formulation of key questions and core problems" methods, which were more selective in the information they produced and have been more satisfactory in adaptiong and up-dating existing curricula. However the problem of translating changing qualification needs in the labour market into new curricular content has yet to be solved.

Sketch of historic developments

Institutional/legislative developments

During the sixties and seventies, VET was not an important issue on the political agenda in the Netherlands. Nevertheless, in the eighties a strong re-orientation took place. The emphasis was shifted towards better matching the needs of the labour market with the structure and output of the education system; the VET-system itself also got more attention in policy-making.

This re-orientation followed the publication of reports of three influential government advisory committees: the Wagner committee (1983), the Rauwenhoff committee (1990) and the Van Veen committee (1993), each chaired by a senior Dutch industrialist.

The initial VET system in the Netherlands consisted at the time of two separate sub-systems: a school-based system ("mbo", the more dominant, both in terms of pupil numbers and in status), and a dual- based system of apprenticeship.

The Wagner committee's report led to the establishment of consultation bodies, *matching-bodies*, Branchegewijze Overleg Onderwijs Bedrijfsleven, BOOBs) in which the social partners and representatives of the education field together determine attainment goals for vocational schools in the school-based (mbo) system. These consultation bodies were the precursors of the National Boards for Vocational Education (LOBs) which were established later (see below).

Along with various policy papers from the Dutch Ministry of Education, Culture and Science, the recommendations of the advisory committees culminated in the legislation of 1995/96, the Adult and Vocational Education Act (WEB). This provided a new institutional framework for the further development of initial VET. The Act not only regulates secondary vocational education (the dual part as well as the school-based part) in an integrated way, but it also regulates general and basic education for adults.

Following the recommendations of the advisory committees over 15 years, the Dutch government laid down the following guidelines for VET-policies:

- involvement of the government itself and greater involvement of the social partners at central and at branch-level;
- more integration of the school-based system (mbo) and the dual-based system (apprenticeship) within a harmonized VET framework;
- more autonomy to relevant players at local level, namely educational institutions/ schools, and the enhancement of their policy-potentials;
- a uniform national qualification structure, with global educational targets determined (together by social partners and the educational field) at central level but with a role for local players;
- the guarantee of a minimum of practice-learning for all VET-pathways (with a minimum of 20% for each course) so as to help smooth the transition from school to work.

Developments in research and investigations

The mis-match between the education system and the demands of the labour market, with regard to VET, was a key subject of debate and policy making during the 1980s. The traditional paradigms (especially planning-oriented paradigms like the human capital theory and the manpower-requirements approach) no longer seemed to provide accurate explanations or adequate solutions. New answers were required to the growing evidence of a qualitative mismatch between vocational education and occupations, the new information and communication technologies and increasing unemployment, particularly among the least qualified.

In the Dutch discussion about the better matching of education and labour, two different approaches have dominated: *direct adjustment* and *flexible adjustment*.

The starting point for the *direct adjustment approach* is that the contents of vocational training schemes can be planned in a direct way on the basis of information about developments in the practice of work, i.e. job contents. Plans were developed for the introduction of systematic procedures to update and develop vocational curricula on the basis of information drawn from occupational practice.

The *flexible adjustment approach* can be regarded as a reaction to the fallacies of the direct adjustment approach. The starting point of the flexible adjustment approach is that it is questionable whether it is possible to predict the future needs of the labour market in a realistic way. The flexible adjustment-approach has an institutional character and aims to achieve optimum division of tasks and responsibilities between different players and between different vocational education/training segments. In this view, it is no longer the task of initial vocational education to keep a close track of all developments in occupational practice but rather to focus on achieving the basic occupational qualifications for particular occupational domains. Basic occupational qualifications are understood to be the qualifications common to all practitioners in a particular occupation or occupational domain as well as the initial key for labour market entrance, career development and a life-long learning. As such, these should be relatively broad, durable and future-oriented.

The flexible adjustment-approach was an improvement on the previously-used method but seemed to fail in at least one essential respect: it did not yield concrete guidelines on the content of initial vocational education and training programmes; it offered only a policy-oriented, theoretical approach. For that reason at the end of the eighties and the beginning of the nineties various new methods were developed and came into use.
One of these methods is the so called *combi-model* - combining elements from both the direct adjustment approach and the flexible adjustment approach - which aims to integrate the most attractive aspects of various methods of matching vocational training systems and occupational practice.

The model is an instrument for providing information about developments in the occupational system, which can be regarded as being of strategic value for adjustments in the initial segment of vocational education and training. The information produced by the instrument does not yield exhaustive descriptions and analyses of job profiles as a basis for job training profiles, but it is rather selective. The model had been designed with a view to adjusting and altering existing curricula, and it is not suited for developing completely new curricula. One of the assumptions is that, usually, it is neither necessary nor possible to restructure training courses totally, but that changing parts of them will be satisfactory in most cases.

The last few years also saw considerable debate in the Netherlands on "key-qualifications", especially regarding the meaning of the term and their role in initial VET-segments.

Current situation

The current situation regarding the institutional dimension in the area of *initial VET* can be characterized by highlighting the following main points:

- firstly, a national qualification structure is developed by the 21 National Boards for Vocational Education (LOBs) which are organized by sector, involve representatives from social partners and vocational schools and are responsible both for qualifications and attainment targets of the dual as well as the school-based part of VET;
- secondly, these qualifications should be independent of the learning route (dual or school-based);
- thirdly, the government laid down a set of criteria, which all national qualifications have to satisfy, and established the Education and Labour Market Advisory Committee (ACOA) to advise on national qualifications and to monitor compliance;
- fourthly, social partners in each sector are responsible for setting up "occupational profiles" and social partners with representatives of the schools have a common responsibility for setting and filling up qualifications pro branch, including attainment targets;
- finally, vocational schools have to base their curricula largely on these national qualifications with about a fifth of the curriculum being set according to local needs.

Concerning the national qualification structure, there are many challenges for further development and improvement. One of the main issues is what the essence of national qualifications should be regarding (developments in) the labour market and occupations. In 1999, ACOA prepared recommendations on how occupational competence profiles might be drawn up by social partners in different sectors. The government had asked for these recommendations because the issue of introducing key qualifications into VET had been raised by the Social-Economic Council (SER) and the Educational Council (Onderwijsraad) of the Netherlands.

ACOA was expected to recommend the shaping of these "formats" according to the concept of core-problems and core-competencies. Core competencies are defined as the abilities of individuals to tackle adequately the core problems of an occupation. Core competencies are multi-dimensionally structured. Its main dimensions are globally defined as:

- professional/craftsmanship and methodical competencies;
- managerial/organisational and strategic competencies;
- social-communicative and normative-cultural competencies;
- learning and shaping competencies.

ACOA was expected to advise that occupational/occupational competency profiles be used as a basis for establishing qualifications (including educational targets).

There had not previously been a standard format for drafting occupational competency profiles.

Standard criteria for the drafting of occupational profiles are necessary to satisfy the need for transparency and also because it is recognised that the quality of qualifications is influenced by the quality of the underlying occupational profiles. In the area of *continuing training* there have been many institutional developments since the beginning of the eighties. Firstly, sectoral training policies were elaborated; subsequently, the "free training market" of private training providers expanded rapidly and, finally, vocational schools may now offer "contract-activities" in this free market.

Specific issues relating to methods and tools

Application of the direct-adjustment approach

There are various methods (or variations of existing methods) that represent application of the direct-adjustment approach, used for developing occupational and training profiles. Two in particular can be considered the most popular in the Netherlands: a) the method for occupational analysis and b) the curriculum conference.

The occupational analysis method is a quantitative and statistical procedure with a strong resemblance to task and job analysis. The core of the method consists of large scale surveys among employees in the occupation or occupational area that is the object of the analysis. By means of this survey the occupational activities that are typical of an occupation or a specific set of jobs within a group of occupations, are identified, together with characteristics of these activities such as frequency of occurrence and importance. By statistical cluster methods activities are clustered in 'tasks' and on that basis finally occupational profiles are constructed. The survey can be completed with an analysis of the possible future developments within the group of occupations or branch of industry involved, that might possibly affect the content of the occupations or jobs or the requirements for these.

The curriculum conference was originally developed, in Germany, not as a method for developing occupational and training profiles, but for developing curriculum proposals. In the Netherlands, however, the curriculum conference has been applied for profile construction. The curriculum conference may be characterized as a group deliberation process in which the content of an occupational profile and/or a training profile is identified and justified. The input for this deliberation process is an information document that contains background information about the occupation or curriculum domain that forms the object of the deliberation, but it may also contain the results of preliminary research (surveys, interviews, etc.) that has been conducted in preparation for the actual conference. Using this information document in a discussion, conference participants have to reach consensus on the qualification or training profile.

Despite their popularity, empirical evaluations among users of these methods show that the results were unsatisfactory for curriculum development purposes. They were insufficient in the sense that they lacked specific information and/or indications considered necessary for the curriculum development process and the choices that had to be made.

Application of the flexible-adjustment approach

The *combi-model* mentioned above has been applied in several sectors. The main feature of the model is the study of large numbers of school leavers from particular training courses, whereby different cohorts are surveyed by questionnaire, or interviewed, about their current job and about their first job after leaving their training course (entry job). The analysis of the gathered information offers various interesting opportunities, for example: it is possible to identify important trends in required basic occupational qualifications because of the large numbers involved; initial training courses can be compared with the qualifications required for subseuqent jobs as well as the need for refresher courses; etc. The analysis of the gathered information offers the opportunity to distinguish both between developments in entry-functions (by comparisons of entry-functions of different cohorts) and developments in the occupational career (by comparisons between entry functions and present day-functions).

An optional component of the model is the carrying out of semi-structured interviews with key staff in medium-sized and large firms with advanced technological and organisational procedures who have a relatively broad view of the occupational fields involved. The interviews aim to obtain information about the likely continuation of current trends, about recruitment and personnel policies, changes in the organization of work, etc.

Another promising method which can be mentioned concerns the *formulation of key qualifications and core problems* which essentially involves interviews with employees about their core problems and about situations and moments when choices had to be made and decisions taken. Subsequently questions are asked about the knowledge and skills that were necessary to solve the core problems, taking as a starting point various dimensions of key-qualifications as these are distinguished in recent literature.

Some problems solved

As a result of the availability of the above-mentioned new approaches to curriculum development in vocational education two problems appear to have been partially solved: the lack of indicators about changing occupational practices and qualification demands; and the lack of opportunity for business and industry to influence vocational education and training. The introduction of the new curriculum development policy in the mid-eighties contributed to the solving of these problems in the Netherlands. The necessity for regular updating of vocational curricula and continuing attention to developments in the labour market has been firmly established. In addition, the various consultative structures established over the last decade provide employers with a platform for expressing their views on vocational education and training. However, the underlying problem of translating changing qualification needs in the labour market into new curricular content has yet to be solved.

The role of government, social partners and other bodies

Since the middle of the eighties there has been a fundamental re-orientation in Dutch policies towards VET. Crucial in this re-orientation has been a more demand-led approach with a big emphasis on market elements. Priority is given to a) an optimal match with developments on the labour market and b) aiming for a starting qualification for everyone.

These priorities are laid down in the new Education and Vocational Training Act (WEB) which has been gradually implemented since 1996. The Adult and Vocational Education Act, as far as it concerned vocational education, is based on three main elements:

- the existence of a national system of qualifications covering all vocational training programmes within secondary vocational education (including apprenticeship programmes);
- the concentration of available courses in about 50 Regional Vocational Colleges (ROCs); and
- the creation of 21 National Boards for Vocational Education (LOBs) in which both education and trade and industry are represented thus playing a central role in developing and maintaining the national system of qualifications.

The national qualification structure

The government offers a set of general criteria according to which LOBs should develop and up-date national qualifications. The main principle is called "selective flexibility", ie broad, lasting and future-oriented vocational qualifications which enable graduates to be flexible on the labour market.

A basic principle of the qualification structure is the so-called triple qualification. Qualifications have to have a three-fold content: programmes not only have to provide students with the necessary professional skills for entering the labour market but also create the base for further education and training and also equip participants with social and cultural skills needed to function as a member of both the social organization of companies and of society as a whole.

However, a crucial question is how the whole system is functioning in practice, especially regarding the main principle of so called *selective flexibility.* Students in VET should be prepared both for individual flexibility (not only at internal labour markets but above all at external labour markets) and for life-long learning. Given that nearly 700 qualifications have been formulated, there is serious doubt about reaching this goal.

Concentration of VET-courses in ROCs

The second main element of the new administrative framework for vocational education is the concentration of the available courses in large Regional Vocational Training Colleges (ROCs). In a ROC the traditional institutions of the various types of vocational education and adult education in a given region are united within a single administrative and organisational unit. These institutions include colleges of intermediate vocational education (mbo's), schools for part-time instruction as part of the apprenticeship training route (district schools), schools for basic adult education, and daytime/evening education etc. Within the framework of the policy of decentralisation these institutions are being given a greater measure of administrative and financial autonomy. ROCs are considered to have a variety of advantages. Combining various types of education and expertise makes it easier than in the past to provide tailor-made programmes for specific groups of students. It also has the advantage of being better able to take into account the wishes and needs of regional trade and industry.

Consultative and collaborative bodies: LOBs

The "shared responsibility" which had been advocated is expressed in the construction of a system of consultative and collaborative bodies (per sector) within which representatives of education and industry meet, the *National Bodies for Vocational Education and training* (LOBs). The LOBs have organized themselves at central national level (COLO), in order to co-ordinate activities of the various LOBs as well as to take care of their common interests. The national structure of qualifications has been determined by the authorities on the basis of component-structures of vocational activities worked out by these national bodies for their own sector. They also play a major role in drawing up the educational goals. The task of trade and industry - social partners pro sector/branch - is to indicate (in the form of occupation profiles) what requirements future employees need to meet. On the basis of these findings, educational goals are drawn up by representatives of education and industry, in a common responsibility. After the ACOA advisory committee has checked whether the educational goals satisfy a number of principles and guidelines, they are then adopted by the authorities. The educational institutions, finally, translate the goals into training programmes which (assuming the goals have been approved) are provided with public financing.

This means that a new distribution of roles is created between the state, the educational sector and trade and industry. The most obvious feature is that the state has set out a general framework within which the parties involved are required to operate but otherwise it keeps its distance to some extent. The framework relates both to actual content (the national structure of qualifications) and procedural matters (the process leading to definition of the educational goals has also been laid down). Another notable feature (in comparison to the situation prevailing only 10 or 15 years ago) is that trade and industry (represented by the employers' associations and unions) has been given a great deal of influence on vocational training. To a significant extent, this influence has been channelled by setting up the National Bodies for Vocational Education and training mentioned above. The third significant feature is the attempt which has been made to combine the above sector-by-sector approach with elements of decentralisation and regionalisation by means of the key role allotted on the supply side to the ROC's.

Concluding remarks and recommendations

What can be concluded related to the institutional context and the further development of methods and instruments? In summary, the following remarks can be made:

1. It is clear that the Dutch LOB can be considered a rather unique form of consultative body wherein both social partners and education specialists bear a common responsibility for shaping national qualifications. Social partners in each sector are responsible for drafting occupational profiles and there is a common responsibility of social partners and educationalists for the adaptation of qualifications and other matters.

2. Both the occupational profiles and the translation-process require adequate methods and tools. The main challenge in respect of the development of occupational profiles is to deal adequately with core occupations. In this respect the concept of key competences is becoming more popular; combi-model and the core-problems method, described above, are characteristic of this trend. However, it is up to social partners pro branch which methods they want to use and consequently also exponents of the direct adjustment-approach will be used further. Above all very pragmatic problems exist, e.g. who will finance the application of methods in research.

3. The main challenges to methods for the translation process are threefold:

- how to integrate requirements both from occupational profiles and from citizenship and learning profiles into qualifications;
- the lack of sufficient methodological proceedings for translation;
- maintenance of a high quality deliberation process within LOBs and between representatives of social partners and vocational schools.

Recommendations from this paper for the further development of tools and instruments in the Netherlands could concentrate on the following issues:

- *consultative bodies* where both social partners and the educational field are responsible for qualifications appear to have a very important role. However, further development or co-ordination of these bodies in a less rigid and in a more interactive way is necessary so that these structures are more suited to the dynamics of the labour market;
- improvement of the *quality of deliberation processes* between social partners and the education sector, especially with regard to the relationship between occupational profiles, qualifications and learning processes;
- further refinement of methods as well as proceedings to guarantee that the *core of an occupational field* is covered by a qualification as a basis for initial VET. This

points also to the issue of what should be considered as the heart of an occupation/an occupational field and to the relationship between the concepts occupation/profession and branch/sector, i.e. how core-or key-competences are defined;

- further development of systems whereby adequate *methods for drafting occupational profiles* are integrated with innovation monitors for signalling new trends that are of relevance for continuous VET.

Finally, it could be concluded that from an European perspective a sensible first step would be to increase the transparency of the dominant methods used in different member states. However, these methods have to be spositioned within the institutional and cultural framework of the Member State involved. The Netherlands could learn very much from what is going on in other member states and vice versa. How consultative bodies are established and how anticipation methods consider core occupational fields are perhaps aspects of Dutch practice of interest to other member states.

Abbreviations

ACOA	Advisory Committee for Education and the Labour Market
COLO	National Bodies for Vocational Education and Training at National Level
LOBs	National Boards for Vocational Education
ROCs	Regional Vocational Colleges
WEB	Act on Education and Vocational Training

Overview of actors and responsibilities within initial VET

Central national level:	
Actors	*Responsibilities*
Ministry of Education, Culture and Sciences (OC&W)	Setting the framework of criteria for initia VET/selective flexibility (Formats)
Advisory Committee Education and the Labour Market	Advising on national qualifications towards LOBs
Sectoral national level:	
Actors	*Responsibilities*
Social partners per branch/sector	Setting up occupational profiles (including updating)
National organs per branch/sector (LOBs)	Setting up national qualifications and attainment targets (on the basis of triple qualification)
Regional level:	
Actors	*Responsibilities*
Regional Vocational Training Colleges (ROCs)	Shaping curricula (contents largely led by national qualifications).

12. Austria

Jörg Markowitsch

To date, the Austrian system of education and training has followed qualification trends in the labour market and actual qualification needs to a limited extent. Education provision has only recently become more labour-market-oriented - as a result of "education crises" (e.g. acute shortages of training places, training deficits in university education) and of moves towards decentralisation in the national education system. Against this background, very different forms of early identification of qualification trends and education system adaptation have occurred. The most important studies and research institutions dealing with processes of adaptation[38] in the qualifications and education systems are reviewed in this report. Methods of determining qualification trends and the latest Austrian qualification needs studies are discussed. Other approaches considered here do not primarily serve to adapt the education and training systems by early identification of qualification trends but do make an important contribution to co-ordinating the two systems.

Historical developments, present status and recent trends

From the end of the 1950s and into the 1960s the economic policy debate was determined by the issue of securing and stimulating long-term economic growth. Growth theories emphasised the qualifications structure inherent in the labour force potential as a deciding factor for growth. The opinion common among education economists – more education leads to more prosperity – was seldom questioned in the following years. The enormous expansion of education in the 1970s and 1980s held everyone in thrall. As a result, in the 1980s education policies and research were both strongly determined by processes of co-ordination between the education and employment systems and by the expansion of education. Above all they used demand-oriented, macro-economic approaches (CLEMENT 1980, PLITZKA-RICHTER 1989). This type of research is still conducted by the large, public economic research institutions WIFO[39] and IHS[40] (cf. for example LASSNIG 1997, BIFFL 1997). The additional need for vocational education and training research was met by research institutes of the social partners, the IBW[41] and the ÖIBF[42]. These determined the pertinent research landscape for many years. The study "Qualification 2000", published in 1989 by the Committee for Economic and Social Issues, represents a milestone in the history of qualification trends analysis in Austria. While it does not deviate from the above-mentioned opinion and the attempt to co-ordinate the education and employment systems, it does impress with its much more comprehensive and holistic attitude and the inclusion of many players and adjacent topics. A shift from deterministic to relativistic attitudes is apparent, creating space for widely varying approaches to qualification research, for example interim research or innovation research. In recent years there has been a general trend away from large-scale, independent, nation-wide qualification analyses and towards regional, local or even enterprise-level analyses of qualification needs. This shift could also be observed in the relevant institutions, as a multitude of small, non-profit and private research establishments mushroomed beside the large, established institutions.

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[38] "Process of adaptation" is understood to mean the process of identifying trends in qualifications and adaptating the education and training system to these trends through implementation of new educational institutions and curricula.

[39] Austrian Institute of Economic Research (*Österreichisches Wirtschaftsforschungsinstitut*)

[40] Institute for Higher Studies (*Institut für Höhere Studien*)

[41] The Institute for Educational Research of the Austrian Economy (*Institut für Bildungsforschung der Wirtschaft*, IBW) was founded in 1975 on the initiative of the *Federal Chamber of the Commercial Economy* (now the *Austrian Chamber of Commerce*) and the *Union of Austrian Industrialists*.

[42] The Austrian Institute for Vocational Education and Training Research (*Österreichisches Institut für Berufsbildungsforschung* - ÖIBF) was established in 1970 on the initiative of the Austrian Trade Union Federation, the Chamber of Workers and Salaried Employees, the Ministry of Social Affairs and the Science Ministry.

While initially interest groups and research institutions emphasised the need for action resulting from an accelerated qualification transformation, these developments eventually made their impact on reforms and laws. The introduction of study courses at institutes of higher education (FHStG), the introduction of the vocational proficiency examination, the demand that university studies should bear relevance to the labour market and vocational orientation in schools are only a few examples of this. The multitude of skills upgrading measures and education-related initiatives of the National Employment Initiative (NAP) provide yet another, topical example.

Adaptation models[43]

This study presents models for the vocational training school system, apprenticeships, continuing training and institutes of higher education. In this way it is possible to illustrate a broad spectrum of vocational training levels and legal foundations, as well as comparing traditional with current models. In conclusion the models are contrasted and discussed on the basis of selected criteria. Further details (including diagrammatic representations) of the models described here are given in the original national report of which this paper is an edited version.

Vocational training school system – Model 1

The Federal Ministry of Education and Cultural Affairs (Bundesministerium für Unterricht und kulturelle Angelegenheiten) dictates the content of training within the vocational training school system (vocational middle and higher schools, academies, colleges) in the form of national skeleton curricula. Proposals for amendments to existing curricula usually come from the school management level. The social partners are included not because of any legal stipulation, but as part of a tacit agreement. They play a minor role here in comparison with the planning of apprenticeships.

Thus, at present, the vocational training school system is characterised by a primarily centralist model. Inputs come either from the educational institution or the state, whereby the state increasingly uses research to help determine curriculum content and qualification trends.

The BMUK does not have its own office for monitoring qualification trends, which means that the adaptation process is more problem-related or demand-oriented than systematic. The establishment of a "curriculum development group" to monitor and plan the education and qualification system is, however, already being considered. The Centre for School Investigation and Development (*Zentrum für Schulversuche und Schulentwicklung*), founded in 1972, is also marginally involved in the monitoring of qualification trends.

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[43] Here, "adaptation model" refers to the form and process of communication between a qualification system or subsystem and a vocational training system or subsystem for the purpose of co-ordination. "Method", in contrast, refers only to those forms and processes which serve the analysis of qualifications.

Nonetheless it should be noted that a) the latest reforms to the vocational training school system, in particular, have demonstrated stronger orientation to the employment system (more autonomy, new, project-related work patterns, foreign-language initiatives, business studies centres, technological projects, etc.), and b) there is less need for change to other types of training in the vocational higher schools, since their basic concept of training is in keeping with present labour market trends.

Continuing vocational training – Model 2

The simplest adaptation model is to be found in continuing vocational training. Since few laws regulate continuing vocational training in Austria, and its providers[44] bear exclusive social responsibility for its organisation, its implementation is simple and pragmatic. In this model the continuing training institutions respond directly to the needs of industry.

However, the organisation of continuing training, including continuing vocational training, is always geared to acceptance structures (demand) rather than to need. An analysis of requirements for the development of continuing training content and supply is the exception, and where there is one, it is conducted internally. In spite of the dominance of the two large continuing training institutions (BFI and WIFI) the supply structure is quite wide ranging, with regard to both participants and content.

The advantages of this model lie in the incomparably rapid reaction time to changes in qualifications. This is reinforced by competing providers and by the adaptability of the system itself. The disadvantages are also obvious: orientation towards personal demand for continuing training often runs counter to the skills needs of the labour market.

Institutes of higher education – Model 3

The newest adaptation model was created through the higher education institutes (FHStGs), which came into effect in 1994, and is not only remarkable for its novelty. In the case of institutes of higher education the state confines itself to a regulatory, monitoring function, while initiation and organisation are the responsibility of the educational institution itself (the higher education study course or its sponsor[45]).

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[44] The continuing training market in Austria is dominated by two organisations, the Institute for the Promotion of the Economy (*Wirtschaftsförderungsinstitut* – WIFI), which is closely associated with the Chamber of Commerce, and the Institute for Occupational Development (*Berufsförderungsinstitut* - BFI), which is closely associated with the Chamber of Workers and Salaried Employees.

[45] The state is not the sponsor of study courses. They are frequently sponsored by non-profit or private associations.

It is often industry which expresses the need for a new direction in training or a change in existing training content. This alone is not enough, however, to stimulate adequate provision by the educational institution or the sponsor. The sponsor is legally required to apply for approval of a study course. The application includes a qualification and labour force needs analysis and an analysis of acceptance among potential students by an appropriate, independent research institution. The licence to offer a higher education study course is usually confined to a four-year term. An extension is granted only after a new application has been made, with a new investigation of need and acceptance, as well as the submission of an evaluation.

Thus, when the educational institution has drafted a concept which meets both the qualification needs of the labour market and the demand for education, it commissions a research institute to investigate demand and acceptance for the potential course. The state monitors this process and makes the final decision on the new or extension application for a higher education study course. As a result, the sponsors of higher education study courses have a high awareness of labour market relevance[46] and their responsibility towards the government, and many update their needs surveys constantly and not only when applying for licence extensions.

The social partners are represented in the FHR, but even without this, the development of the higher education system is judged very positively by the social partners, and is seldom criticised.[47]

The time needed for the development of a higher education study course varies and has altered in recent years owing to the number of applications. A distinction should also be made between the time which elapses before the application can be submitted, which averages a year but takes at least a few months, and the time needed for the FHR to process the application and the study course to begin. At the introduction of the system of institutes of higher education the application usually took about six months, but now it takes one and a half years on average.

The advantages of the higher education institutes model lie in the emphasis on the role of providers and demand. Since initiation and organisation are the responsibility of the educational institution or the sponsors, space is created for innovation, flexibility and local (decentralised) interests. At the same time, the system promotes orientation towards current and future qualification trends and reinforces it through research.

The university adaptation model is more similar to that of the vocational training school system (Model 1) than the institutes of higher education model, although in this case the role of qualification research and the state are less distinctive. In some cases the universities themselves take on the role of researcher, in the form of graduate surveys.

Apprenticeships – Model 4

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[46] Sustained promotion of this awareness (which was engendered by the above-cited study "Qualification 2000) by this specific adaptation model is unquestionably a success due to the latest Austrian education policies.

[47] The continuing training institutions associated with the social partners, the WIFI and BFI, are themselves higher education study course sponsors.

In the case of apprenticeships the roles are more diverse. Parliament deals with matters of principle. The Minister of Economics issues directives on vocational trainers and examination regulations. The Minister of Education and the provincial school inspectors determine curricula. However, the essential tasks of adapting apprenticeship training to new qualification trends are the responsibility of a special body, the Federal Vocational Education and Training Advisory Committee (*Bundes-Berufsbildungsbeirat* – BBAB), which draws up expert reports (and proposals) for profiles of new training occupations or amends the profiles of existing ones. The tasks of the BBAB were defined in the Vocational Training Act (*Berufsausbildungsgesetz*) of 1969. It is supervised by the Austrian Chamber of Commerce and is composed of 12 members, six of whom are delegated from the Chamber of Commerce and six from the Chamber for Workers and Salaried Employees.

The work of structuring apprenticeships and their orientation towards qualification trends and the needs of the labour market remains somewhat obscure. Proposals and drafts can come from various sources – the BmwA[48], the provincial vocational training advisory committees, specialist organisations or even research institutes (here in fact only from the IBW). The composition and tasks of the committees which draft and elaborate concepts is diverse and need-oriented. Research plays a lesser, at most advisory role. It is rare that the committees themselves initiate investigations or commission needs or acceptance analyses. Where needs are not self-evident, e.g. in large apprenticeship trades which merely need updating, surveys are only conducted within enterprises through the appropriate specialist organisations.

The time needed for the introduction and implementation of a new apprenticeship trade varies considerably. Recently a number of apprenticeship trades have been developed rapidly, with the work of the BBAB and the committees not taking longer than a month. A further two months pass before the federal ministries responsible complete their procedures, and another six months before the final ordinance is issued. It might, however, be 2 or 3 years before certain apprenticeship trades pass through the BBAB. The BBAB has repeatedly been criticised for this. There are in fact apprenticeship trades which the social partners can agree on promptly. There are others on which practically no agreement is reached at all or where agreement is delayed indefinitely because the social partners are still discussing "fundamental issues".

This is the greatest disadvantage of this model. Since the organisation of apprentice training – in contrast to the other forms of training – is closely linked to working life, with obvious consequences for labour market policies, it is more difficult for the social partners to reach an agreement here than on those forms of training whose relevance is not so evident. Agreement between the social partners is, however, an absolute prerequisite for the adaptation process. Of course this argument can be countered with the argument that once an agreement has been reached it will be supported and consequently pushed through by both parties.

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[48] Federal Ministry for Economic Affairs (Bundesministerium für wirtschaftliche Angelegenheiten)

The roles of the state and the social partners; modes of implementation

All the models presented here have quite specific and extremely diverse advantages and disadvantages. In comparing and summarising findings it can be stated that at the present time those models are most successful in which the *state has taken on a novel role* (in short: it restricts itself to basic tasks). A glaring lack of state intervention, such as is encountered in the sphere of continuing education and training, does not necessarily mean an improvement in the quality of adaptation to qualification trends, nor does it guarantee adaptation.

The *social partners* exert considerable influence in those fields which are their main focus of interest, because they are most closely linked to working life. These fields are apprenticeships and continuing vocational training. The state invites the social partners to become involved in other areas of education, too.

In those models with a more centralist structure (Models 1 and 4) the *implementation time* depends on both the urgency of the problem and the type of central decision-making. These models cannot vie with those based on competition, for which implementation time is a deciding competitive factor (Model 2). Until now this has also been true of Model 3.

New occupations are almost only identified as such within the framework of the dual system (Model 4), which is expressly oriented to the occupational concept. The other types of training are directed more towards broader occupational fields and skills profiles. The dual system displays serious structural deficiencies regarding cross-sector developments. The restrictive classification of occupations to specific sectors and their interest groups make it more difficult to "broaden one's horizons". New, less traditionally organised sectors of industry, such as large parts of the service sector, are therefore excluded and the transformation from production to service occupations is a long, drawn-out process. The institutes of higher education (Model 3), in contrast, recognised and promptly provided for the trend towards the cross-sector, interdisciplinary requirements of modern industry. An interdisciplinary approach is more characteristic of these study courses in Austria than in other countries, e.g. Germany.

The *quality of implementation* depends not least on preliminary work and concomitant measures, and their supervision, as well as the division of these tasks among various players. In Model 1 "vocational training school system" these tasks are not divided up. In Model 2 "continuing training" neither the division nor the individual tasks are given enough consideration. In Model 4 "apprenticeships" the concomitant measures, in particular, are missing. Viewed from this aspect Model 3 "institutes of higher education" appears best suited to meet the requirements.

Model 1 "vocational training school system" seems to have the most awkward *chain of communications*. The educational institute and the labour market, the factors to be co-ordinated, are far apart. Communications pass through many filters via the state and research institutions. Of course a number of informal communication chains play a part, but it is scarcely possible to identify their effective significance. Model 2 "continuing training" has the shortest communication chain, but has other deficiencies. Model 3 "institutes of higher education" presents the longest chain of communication, but because the institutions act as a "communications centre", collecting knowledge and expertise, this can be regarded as a positive factor. Model 4 "apprenticeships" basically has a very direct chain of communication, but important parts of it remain obscure and informal.

Methods of qualification needs analysis

The primary instrument in organising and shaping new elements of the vocational education and training system is, without doubt, the "expert working group", whether in the form of an advisory committee (e.g. vocational education and training advisory committee), a ministerial working group (vocational training school system) or as the development team of a higher education study course. The work of this group is preceded or supported by a number of methods for the analysis of qualification trends. In the following the applied methods of qualification analysis used by researchers in Austria will be discussed. With this objective, the most recent Austrian qualification needs analyses are presented at a glance.

The analyses can be classified firstly according to client and objective. This gives three major groups. There are the analyses commissioned by the Labour Market Service, which are almost always directly connected with specific labour market considerations (this group includes about 15 studies of differing sizes in the past five years), analyses commissioned by the ministries responsible for education, which were always limited to a specific education target group, and needs analyses for higher education study courses, commissioned by sponsors and designed specifically for one occupational profile and a limited sub-sector of the labour market. This type of analysis in particular, being legally prescribed, has experienced quite a boom. In the past five years an estimated 100 analyses, approximately, have been conducted, almost all of them unpublished.[49]

There are guidelines, published by the Higher Education Council, for drawing up needs analyses for higher education study courses. The guidelines provide for an approach combining analyses of secondary statistics and original surveys. It is not stipulated whether the original surveys should be qualitative or quantitative. The main problem in adhering to the guidelines is that existing secondary statistics allow only unsatisfactory conclusions about the new, usually extremely innovative educational concepts of the potential higher education study courses. The exigencies of the guidelines and the desire of the client for rapid completion of the needs analyses for higher education study courses mean that analyses are often conventional rather than innovative. Depending on the implementing institution, studies can be oriented on market-research, secondary statistics or quality.

The qualification needs analyses commissioned by the Labour Market Service and the federal ministries (a total of about 20 in the past five years) are comparable and will therefore be discussed together here. These studies differ considerably with regard to target groups, research questions, subjects of investigation, methods used, sources, terminology and results.[50] It is therefore scarcely possible to generalise or describe trends. The few generally valid findings can be summarised as follows:

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[49] This has led to a huge increase in research in this field.

The studies are sector-oriented rather than regionally oriented. A minority of studies differentiate between enterprises according to size. There is also a fundamental deficit in gender-specific differentiation. The period investigated by secondary-statistics analyses covers the latest two censuses (1981 and 1991), and these are therefore not entirely up-to-date. The period covered by the prognosis is usually short-term (one year) or medium-term (five years). Both qualitative and quantitative methods are used, purely quantitative methods and mixed types (quantitative and qualitative) being prevalent. Qualitative methods include interviews, workshops and case studies. Quantitative methods include oral and written original surveys and analysis of secondary statistics. Quantitative prognoses are usually (linear) extrapolations. The scenario technique itself is rarely used.

Viewed overall the studies show quite specific deficits[51], particularly the following:
- *Lack of transparency of research objectives*, as manifested in the inadequate description of research questions and aims of studies, makes comparison of the studies more difficult. This leads to a *lack of systematic reference*. The study reference systems are insufficiently elaborated. References to both theory and to methods are missing, as well as references to related studies.
- *Terminology weaknesses*. The disparate use of crucial terms such as "qualification", "qualification requirement" and "qualification needs" is the main problem of Austrian qualification research. The purely secondary-statistical studies are based on a definition of qualifications in which qualifications are identical to occupations or formal training. As a result, qualification needs are frequently equated with personnel or labour needs and not with the need for continuing training or instruction. The whole area of informally acquired qualifications is totally neglected in almost all studies.
- *Irrelevance to planning*. While the majority of the studies formulate the need for action in some form, whether as strategy, measure or need for intervention, none of them present relevant planning or implementation concepts. The aspects "consultation" and "structuring" are therefore totally marginalised.

This last point, in particular, raises the issue of the *limitations of qualification needs analyses*. Do (qualification needs) analyses even provide pointers for action? Closer observation indicates rather that the limitations of a qualification needs analysis lie in finding evidence for or in locating the need for action. This need can be formulated and addressed explicitly, but the inference of recommendations for action itself exceeds the potential and the mission of a qualification needs analysis. In the end, the formulation of recommendations for action seems (theoretically) totally independent of the analysis. This problem does not arise in the case of needs and acceptance analyses for higher education study courses. These test already formulated recommendations for action, i.e. the establishment of a higher education study course.

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[50] This is not solely because of the differing "subject matter", but also because there are a number of authors (and institutions) involved.

[51] The unsatisfactory data (such as the lack of statistics on continuing training) and the usual inadequacies of needs prognoses such as the unreliability of long-term prognoses, the indeterminability of technical progress, the difficulty in categorising the tasks demanded of a certain position and the qualifications demanded of staff, substitution effects, the interdependence of supply and demand, and finally political influences on developments need not be repeated here.

Alternative approaches

Below are some Austrian examples which are not directly linked to the subject under discussion, since they do not deal with the analytical separation of qualification trends observation and the subsequent reaction. The examples deserve to be mentioned, however, because they promote the co-ordination of the vocational education and training system with the qualification or employment system in an integrative and implicit way. These particular examples have novel elements or have acquired new significance.

- *Work experience during higher education study courses*, which is usually compulsory and consists of several months of practical experience working in an enterprise, not only provides students with an insight into working life, but also encourages the transfer of new (enterprise-related) experience to the higher education study courses.
- *Graduate clubs* in higher education study courses and universities give both students and teaching staff direct feedback on the strengths and weaknesses of the training.
- *Teaching staff from industry* - for example in higher education study courses - represents the most simple and direct form of (personnel and) knowledge exchange.
- *Technician projects* at higher technical colleges directly confront teaching staff and students with the requirements of business practice.
- "*Training firms*" in which occupational procedures are simulated provide a suitable form for revision and reflection on the material studied. The same is true of *Business Studies Centres* at commercial academies.
- *Work experience in enterprises for teachers* also represents an opportunity for the transfer of knowledge from the world of employment and work to the classroom.

All these options can basically be regarded as dual elements and reinforce the relationship between qualification system and vocational education and training system in a direct - though implicit - way. That is, the qualification requirements as such do not need to be explicitly formulated because they have an immediate effect. They are not mediated by an institution. Of course these approaches are subject to local limitations, but these affect only their transferability and not their efficiency. For these approaches to take effect in shaping the vocational education and training system, this system must be flexible. This is already partially assured by various forms of school autonomy.

Recommendations and further development

The distinct but interdependent strengths and weaknesses of the models and methods presented make it difficult to formulate clear recommendations for their further development. A recommendation for the future cannot simply compare a *status quo*, but must anticipate those developments into which these models and methods are integrated. These are not only social, economic and political developments, but also the concrete future role of the state, social partners, research and the public - factors which are difficult to predict.

Viewed from the present standpoint the comparison of adaptation models shows that the ones in which the players named play a "modern" role and the roles are clearly assigned are the most promising models. It has also become apparent that implicit and obscure chains of communication hamper processes of change. Improvements could be achieved here by making them "visible" and "transparent".

Consideration of qualification analysis methods has revealed that they are too narrow, and not innovative or adventurous enough. Methodologically speaking, researchers do not take enough advantage of what is on offer, even of methods known and proved in other countries. Although it is difficult to stimulate innovation, the basic evils of Austrian qualification research - divergent terminology structures and deficient systematic references - could be confronted (perhaps by introducing a "referee" system) and thus the quality of methods improved.

In future, new, less analytical and more pragmatic or implicit forms of co-ordination between the education and qualification systems should be taken into consideration. Such approaches could actually take the pressure off (national) processes of adaptation and appropriate concomitant research could engender a new field of activity for qualification research[52].

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[52] For the preparation of this article brief interviews were conducted with the following people: Dr. Peter Zeitler, Chairman of the Federal Advisory Committee on Vocational Education and Training (*Bundes-Berufsausbildungsbeirat*); Ministerialrat Dr. Werner Timischl, Federal Ministry of Education and Cultural Affairs (*Bundesministerium für Unterricht und kulturelle Angelegenheiten*); Prof. Werner Clement, Professor of Economics at the *Wirtschaftsuniversität* Vienna and head of the Institute of Industrial Science (*Industriewissenschaftliches Institut*) . However, the article reflects the views of the author, which is not necessarily identical to that of those interviewed.

Overview of VET sub-systems and adaptation models

	Adaptation model	Instruments for early identification and adaptation	Provision		Curricula		Role of the social partners	Implementation time	Communication of the adaptation process
			Preparation	Decision	Preparation	Decision			
Apprenticeships	4	Informal, working groups	BBAB	BMwA	BBAB	BMUK	significant	varies	short, obscure
Vocational training schools	1	Working groups (QNS)	BMUK	BMUK	BMUK	BMUK	slight	slow	long, filtered
Institutes of higher education	3	QNS, working groups, evaluation by peers	HES	BMWV, FHR	HES	FHR	slight	rapid	long, effective
Universities	1 (3)	Working groups, (graduate surveys)	BMWV	BMWV	UNI-Stuko	UNI-Stuko	slight	slow	long, filtered
Continuing training	2	individual	CTP	CTP	CTP	CTP	significant	rapid	short

Abbreviations

BBAB	Bundes-Berufsbildungsbeirat (Federal Vocational Training Advisory Committee)
BFI	Institute for Occupational Development (Berufsförderungsinstitut).
BMUK	Bundesministerium für Unterricht und kulturelle Angelegenheiten (Federal Ministry of Education and Cultural Affairs)
BMWA	Federal Ministry for Economic Affairs (Bundesministerium für wirtschaftliche Angelegenheiten
BMWV	Federal Ministry for Science and Transport (Bundesministerium für Wissenschaft und Verkehr)
CTP	Continuing training providers
FHR	Higher Education Council
FHStG	institutes of higher education
HES	institute of higher education sponsor
IBW	The Institute for Educational Research of the Austrian Economy (Institut für Bildungsforschung der Wirtschaft).
HIS	Institute for Higher Studies (Institut für Höhere Studien).
NAP	National Employment Initiative
ÖIBF	Austrian Institute for Vocational Education and Training Research (Österreichisches Institut für Berufsbildungsforschung
QNS	Qualification needs studies
UNI-Stuko	University studies commissions
WIFI	Institute for the Promotion of the Economy (Wirtschaftsförderungsinstitut)
WIFO	Austrian Institute of Economic Research (Österreichisches Wirtschaftsforschungsinstitut).

13. Portugal
INOFOR

INOFOR, the Institute for Innovation in Training, was created by statute in 1997 to promote long range forecasting of skills and training needs in Portugal. The institute has no specific responsibility for the adaptation of the education system to changes in qualifications and occupations nor is there any legislation on this theme. However, the Strategic Cooperation Agreement of 1996 made provision for: i) the development of sectoral programmes for modernisation of qualifications by identifying trends in markets, technologies, corporate organisation and occupations and ii) negotiation of collective agreements on qualifications and occupational classifications. The implementation of these measures has, however, fallen well short of the recommendations made in the Agreement. Collective bargaining, for example, being strongly committed to current labour situations, has not yet adopted an evolutionary vision of organisations, skills and vocational training. What emerges from the Portuguese experience is the wide diversity of methodologies applied, the sectoral and/or regional approach of many of these studies and their ad hoc nature, all of which hampers the establishment of a national reference point for training profiles.

Institutions, legislation and studies carried out

A limited number of studies on qualifications trends and skills needs were carried out between the 1960s and the 1990s, mainly commissioned by public bodies (either directly or through university research centres and consultancy companies) or by trade union associations and training centres.

The first studies, commissioned by the Ministry of Education (ME) and by the then Ministry of Employment and Social Security (MESS) between the 1960s and the early 1980s, were based on quantitative methodologies for forecasting labour supply and demand at national level and were mainly intended to provide backing for educational measures. The first study listed in the bibliography, which was undertaken in 1964 and funded by the OECD under the Mediterranean Regional Project, was designed to estimate the country's educational needs. In the 1970s, a second study, carried out with OECD backing, was to be used in re-organising the network of polytechnics and universities.

In the early 1980s, two studies commissioned by MESS used traditional methods of analysing labour requirements at national level:
- the *labour* approach: developed within the framework of education policy, this approach sought to analyse labour requirements by occupation or by level of education (Pedro, E., 1993). Three sets of variables were involved: economic (production and productivity forecasts), educational (pass, repeat and drop-out rates), and labour demand (employment per sector and per occupational group);
- the *social demand* approach, was based on meeting the private demand for education rather than on achieving economic and social goals, with the object of determining the demand for education from individuals/families and its relationship to "demographic pressure and the way the education system functions" (OECD, 1989:36).

Two studies adopting the same model-based quantitative methodologies for forecasting labour requirements, which were commissioned in the second half of the 1980s by the ME and the Calouste Gulbenkian Foundation, introduced new issues: the importance of vocational training and the impact of technological innovation on labour demand.

Two nation-wide statistical surveys were launched into training needs for the 1990/92 and 1993/95 three-year periods by the Statistics Department of the MESS (DE-MESS), based on a range of economic activities, excluding the agricultural sector and companies with fewer than 10 employees.

Further sectoral studies in the 1990s applied various non-standard methodologies whilst placing greater emphasis on qualitative information, interviewing techniques with selected delegates and case studies. The focus was the traditional sectors of the Portuguese economy (clothing, textiles, footwear, cork articles) and sectors that have been economically and technologically dynamic in recent years, stimulating job creation and the demand for new skills, eg information technologies and electronics, the automobile industry, dies and plastic articles. Many of those commissioning the reports were training centres, trade union associations and public bodies (in most cases, from university research centres and consultancy companies).

In 1990, a study was commissioned by CEDEFOP on the training needs of foremen and workshop supervisors in the textile and clothing sector. In 1991, two studies were carried out by the General Workers' Union (UGT) and the Metal Working and Mechanical Engineering Industry Vocational Training Centre (CENFIM) which studied the development of employment and occupations in the wake of technological modernisation. The first was based on a sample of 21 companies in the mechanical engineering and textile sectors, with 60 workers being interviewed. The second was a regional and sectoral survey covering 85 metal working and mechanical engineering companies in the south of the country. A similar study was published in 1991 on the effects of information technologies on human resources in textiles, clothing, dyes and automobile sectors. In 1993, the same trade union organisation launched a study on employment and training provision in the clothing, cork and plastics sectors in the Set-bal peninsula with a view to assessing human resources requirements, based on interviews with company managers and the analysis of statistical data.

Only two studies of regional scope were carried out: a survey of the training needs of local authorities, based on a sample of eight districts in the north of the country, commissioned by the Northern Region Coordinating Committee (CCRN) and published in 1992; and a survey of training needs in the Set-bal peninsula from 1994 to 1999, commissioned by the Institute of Employment and Vocational Training (IEFP) under the umbrella of the Ministry of Employment and Solidarity (MTS).

The first studies in Portugal that used long-range forecasting methods for sectoral analysis and the drawing up of professional profiles with a view to establishing reference points for diagnosing training needs were commissioned in 1992 and 1993 by the National Institute for Industrial Engineering and Technology (INETI) from a university research centre. These studies sought to identify human resources requirements in the field of information technology (IT) and electronics, and to assess training needs in the light of the introduction of IT into companies in various industrial sectors.

The creation in 1993 of the Employment and Vocational Training Observatory (OEFP) - a tripartite body set up with the aim of assisting with diagnosis, prevention and resolution of employment and vocational training problems and whose responsibilities involve a strong research component developed directly or via third parties - fostered the emergence of a range of studies of both sectoral and national scope focussing specifically on the development of skills, occupations and training needs. These studies included: the survey of employment and training carried out by the Vocational Training Centre for Trade and Ancillary Areas (CECOA), published in 1994; a study on the impact of industrial reorganisation on (un)employment and vocational retraining, with particular reference to the textile sector in the Covilha area; and studies on the quantitative and qualitative development of skills and occupations at national level ("Qualifications and the Labour Market", 1994 and "Companies and the Dynamics of Occupations", 1994). Those still in the preparation phase include studies on corporate strategies and key skills, training policies in companies, the impact of new technologies on job creation and elimination and a study on the building and civil engineering sector in relation to the development and contraction of employment.

Two studies of national scope commissioned by the ME and the MTS are now being concluded which seek to identify human resources requirements in the long term by level of qualification and occupational area and key skills.

The study commissioned by the ME, entitled "Education: changing trends", involves various types of analysis, particularly forecasts of the principal quantitative development trends for the education system and identification of key professional profiles and skills in Portugal with respect to specific development scenarios up to 2020. This study adopts quantitative methodologies and forecasting models in determining the trends for the education system. With respect to anticipating skills requirements, it uses long-range qualitative methodologies and consultation of the social partners, training organisations and technological centres in a range of sectors of activity: automobiles, tourism, IT and footwear.

The study commissioned by the Directorate General for Employment and Vocational Training (DGEFP) of the MTS (from a university research bureau) seeks to identify and describe developments in the supply and demand for skilled labour at national level using a range of methodologies: the application of models for forecasting quantitative development trends in the supply and demand for qualifications, the construction of macro-economic scenarios up to 2015 and case studies in companies in the footwear, electrical and electronics and IT sectors.

Reference should also be made to a study being undertaken by INOFOR based on training organisations accredited in the field of training needs diagnosis. This study shows that only a small percentage of the approximately 170 accredited bodies have diagnostic skills based on tried and tested techniques, and of these only 30% adopt a forward-looking approach, involving policy considerations and forecasting methods focussing on the medium to long-term. Of those that adopt a forward-looking approach, 15% do so on a sectoral basis and 14% on an organisational or company basis. Because the study is still in the initial stage it is not yet possible to describe the methods used by these bodies to anticipate training needs. An annex to the original national report of which this paper is an edited version includes preliminary results of this study.

What emerges from the Portuguese experience over this period is the wide diversity of methodologies applied, the sectoral and/or regional approach of many of these studies and their ad hoc nature, all of which hampers the establishment of a national reference point for training profiles and needs capable of sustaining forward-looking initiatives targeting the training system.

The INOFOR long-range sectoral studies

Since 1996, Portugal has seen the study of long-term trends in qualifications and the systematic surveying of training needs as a foundation stone for policy initiatives fostering the development of the training system and quality training provision.

A ground-breaking project, "Development of Qualifications and Diagnosis of Training Needs", was initiated by the former Ministry for Qualifications and Employment (now the Ministry of Employment and Solidarity). INOFOR was entrusted with developing the project, a task which arose out of the "Strategic Cooperation Agreement" signed by the Government and social partners in 1996. The aim is to develop sectoral programmes for identification of trends in markets, technologies, corporate organisation and occupations. This was the first study enabling the priorities for funding training to be systematically established for most sectors of the Portuguese economy.

The studies are intended to pinpoint trends with regard to jobs and qualifications/skills and to propose changes to the training system on a sectoral basis, thus seeking to provide a reference point for policy information in support not only of forward-looking but also of pro-active involvement in competitiveness, jobs and training.

The following techniques are involved: i) diagnosis and long-range scenarios for each sector of activity; ii) cataloguing of professional profiles; iii) diagnosis of training needs and potential pathways to change in training provision.

The studies are designed to satisfy a wide range of social players involved in the production, use and enhancement of qualifications: bodies responsible for training policy, training organisations and trainers; employer associations, trade union associations and trade associations; bodies involved in managing the labour market, such as careers guidance and information officers, experts in the field of employment and technical certification committees; businessmen, managers and human resources managers; and workers and the general public.

The project, which began in 1996 and is scheduled to end in 2001, covers all sectors of activity (28 are specified) at national level. By 1999, studies had been undertaken in the clothing, ornamental rocks and hotel sectors, while those on the following sectors were under way: textiles, ceramics, metal working and mechanical engineering, wood and wood working, building and civil engineering, fisheries and aquaculture, transport and trade and distribution.

For 2000 and 2001, the sectors/fields of activity to be examined will be: tanning and footwear, electrical and electronic equipment, graphic art, agriculture, agrifood, chemicals and plastics, power, health and social work, communication and information services, social, collective and personal services, paper and cardboard, the environment, arts and crafts, mining, services to companies, education/training and tourism.

The project methodology is diagnostic and long-range, involving the latest theoretical and methodological contributions in the field. The purpose of the methodology is not only to anticipate but also to influence the development of the sector concerned with respect to the competitiveness of companies, employment and qualifications, by analysing the current situation and any signs of change (diagnosis) and establishing possible future (long-range) scenarios with a view to pinpointing policy action. Contrary to traditional methods for surveying training needs at national and sectoral level, which favoured quantitative approaches and forecasting, this project is based on a qualitative and long-range planning methodology that seeks to involve the players producing, using and enhancing qualifications and skills.

The methodological technique is based on a model for analysing sectoral activity, employment and skills which assumes: (1) that the dynamics of establishing professional profiles partly determines training needs; (2) that current and future options and the behaviour of the various players have an impact on the establishment of professional profiles; (3) that the establishment of professional profiles and training needs is also an indirect reflection of the dynamics of the socio-economic environment, which affects the options of companies, education-training system and individuals; and (4) that the development of qualifications and skills should be analysed in conjunction with the social players involved in producing, using and enhancing these qualifications and skills at sectoral, regional and national level.

This methodology involves the following stages: i) Socio-economic profile of the sector at domestic and international level and description of corporate strategies in terms of markets and products, technologies and organisational models; ii) Study of jobs in the sector and quantitative and qualitative development potential; iii) Construction of 10-year development scenarios for the sector and identification of the advantages/disadvantages for the strategic behaviour and competitiveness of companies, on employment and on qualifications/skills in the sector; iv) Construction of broad-based, dynamic and long-range skill-related occupational profiles for the sector; v) Diagnosing training needs and proposals for changes to training specifically geared towards the sector with a view to anticipating the short and long-term needs in terms of qualifications and skills. (Further details on the methodology are given in the original report, of which this paper is an edited version.)

Methods for transferring the findings to the VET system

Transferring the findings of studies anticipating skills needs to the vocational system is a key aspect of the work of the various players involved, and generally tends to be "reactive" rather than "forward-looking". The comments made below are based on the outcome of the INOFOR long-term sectoral studies referred to above. INOFOR

has promoted the transfer of research results to the training system in the following ways:
i) by developing an on-going "social" methodology and by sharing findings, widespread critical debate and appropriation at the appropriate time by potential users;
ii) for each sectoral study, disseminating the findings through publication in paper form (the compilation "Sectoral Studies" and the compilation "Sectoral Summaries"), on CD-ROM and through wide-ranging seminars on each sector and through training with the social partners and other players involved;
iii) by adjusting the supply of training to the needs of developing and modernising companies. A pilot scheme is being developed that involves the creation of a working party by the ministries that make training available for specific sectors of activity concerned. The aim is to draw up proposals for: adjusting training courses to the profiles recommended in the sectoral study, adjusting the principal training materials to the skills needs for each professional profile, and altering the training provision network to meet the needs of the sector. The work carried out so far shows that cooperation between the various training subsystems has great potential: it harmonises the training provision available, provides greater transparency, thus ensuring better understanding on the part of its target public (trainees and companies) and rationalises resources.

Role of the State and social partners in studies and the transfer of findings

As has been said, the preparation of the long-range sectoral studies and associated catalogue of professional profiles being undertaken by INOFOR is a State initiative (Ministry of Employment and Solidarity) encompassing the social partners, companies and those involved in training, particularly training organisations.

INOFOR is responsible for this research, in conjunction with the Planning and Research Department of the Ministry of Industrial Development, Planning and Spatial Administration (MEPAT) and the Department of Secondary Education (DES) of the Ministry of Education, which among other things supervises the vocational schools.

The work of the INOFOR in drawing up the sectoral studies is monitored by the social partners through their participation in the Conselho Geral [General Council], an advisory body that validates the planning and work produced by the INOFOR of which the social partners and government bodies most directly involved in the training system are members.

The principal bodies responsible for applying the findings are: the Instituto de Emprego e Formação Profissional (IEFP), an MTS body that implements employment and vocational training policies, is responsible for the apprenticeship system and also supports the occupational certification system; the Department of Secondary Education of the Ministry of Education, which supervises the principal education and vocational training systems (in the job market training subsystem and in the teaching system respectively); and also those managing operational programmes under the Community support framework who are responsible for the analysis and selection process for these programmes and can therefore exert a positive influence over their content.

In addition to the public bodies referred to, the social partners, training organisations in general and companies are, as has been said, privileged partners throughout the study process, either providing information essential for research or consideration and validating findings obtained in the course of the studies. They are also the key targets as regards application of the findings.

Critical analysis of the sectoral studies

Given the complexity of the underlying technical and social methodology, drawing up sectoral studies is very demanding in terms of time (each sectoral study takes around 12 months), in terms of the technical capacity of the team, and in terms of fine-tuning the methodology itself.

The transfer of findings/products to the training system is difficult. Although the methodology used for the long-range sectoral studies described above involves close cooperation with the various players in the system, and although results are widely disseminated, the results are not easily applied in practice by potential users.

Indeed, public and state-supervised training structures do not always take due account of the findings of long range studies in revising the curricula for their respective training courses. Situations do exist, however, in which the professional profiles produced by INOFOR have enabled the curricular content of training to be altered for the better, as in the case of the Technological Centre for the Use and Promotion of Ornamental and Industrial Rocks (CEVALOR).

With regard to the certification system, on the other hand, situations have arisen in which the "professional profiles" drawn up by INOFOR and provided to the technical certification committees were not those later adopted as "certification profiles", due to the tripartite negotiation and social interests at stake (eg in the hotel sector), although it should be acknowledged that there have been cases in which the professional profiles produced by INOFOR have facilitated, supported and speeded up the work of the certification system (eg the ornamental rocks sector).

The efficiency, quality and speed with which anticipation findings are implemented remains a critical issue that must be taken into consideration by the public authorities and social partners. At its core, the problem is an institutional one (related to the failure to allocate responsibility for the "transfer" of findings and shortfalls in inter-institutional coordination) and a social and cultural one (the tendency to focus on past and present values as opposed to values for the future, a culture that favours a "reactive" rather than a "forward-looking" response and is resistant to change).

Recommendations

In summary, the transfer of any findings to the training system is a difficult and slow process. As has been said, a culture that favours *reactive* rather than *forward-looking* action, the difficult interaction of providers and users of knowledge, the slow process of establishing effective partnerships between the various players in the training system and the rigidity of the system itself are some of the factors that underlie the difficulties.

The original report of which this paper is an edited version includes a number of recommendations aimed at ensuring that the products arising from sectoral studies and the transfer of findings to the training system have a greater impact (see, "B. Appendix I: tables and maps"). The recommendations are under three headings: institutional measures (eg clarifying roles and responsibilities of main players); instructional measures (eg to improve understanding of the importance of the value of sectoral studies among sectoral players); and other policy measures (eg developing pilot schemes to implement the findings of studies).

Abbreviations

CCRN	Northern Region Coordinating Committee
CECOA	Vocational Training Centre for Trade and Ancillary Areas
CENFIM	Metal Working and Mechanical Engineering Industry VET Centre
CGTP	General Confederation of Portuguese Workers
DE-MESS	Statistics Department of the MESS
DGEFP	Directorate General for Employment and Vocational Training
IEFP	Institute of Employment and Vocational Training of Ministry of Employment and Solidarity (MTS)
INETI	National Institute for Industrial Engineering and Technology
INOFOR	Institute for Innovation in Training (Instituto para a Inovação na Formação)
ME	Ministry of Education
MESS	Ministry of Employment and Social Security
MTS	Ministry of Employment and Solidarity
OEFP	Employment and Vocational Training Observatory
UGT	General Workers Union

The benefits of INOFOR's sectoral studies

Products of sectoral studies Users	**Diagnosis and long-range scenarios for the sector**	**Catalogue of professional profiles**	**Diagnosis of training needs**
Companies, businessmen, managers, human resources managers and trade associations	To position the company with respect to the competition and other non-competing companies in the sector. To visualise the various possible future scenarios for the sector and the impact on the position of the company. To opt for one scenario rather than another (what should be done to bring this about) – to guide the technical, organisational, market and product choices to be made.	To manage human resources on a long-range and preventive basis, managing downsizing, recycling and recruitment in a forward-looking and strategic way. To identify and acquire strategic skills bolstering and fostering corporate competitiveness. To diagnose training needs and construct more appropriate and proactive training plans.	To improve its use (encouraging closer training-company links). To diagnose shortfalls in skills within the company that can be covered by the training system.
Trade union and professional associations	To visualise the diversities of the sector and companies, development scenarios and their impact on the world of employment.	To improve negotiating capacity and preventive action in the event of negative trends in employment and detrimental changes. To reappraise collective bargaining based on an occupational, technical, neutral, pro-active, dynamic and long-range reference point.	To diagnose training shortfalls and training needs by area and professional profile. To improve the use of the training system.
Bodies responsible for managing and planning training, training organisations and trainers	To highlight how training can respond to and support sectoral and corporate competitiveness .	To gain insight into labour demand, its quantitative and qualitative trends and development factors so that courses, materials and qualification profiles can be reviewed in advance.	To rationalise the supply of training in terms of courses, materials and qualification profiles, focussing on priority areas, strategic profiles and skills needs which will foster competitiveness.
Bodies involved in managing the labour market: careers guidance and information officers, experts in the field of employment, technical certification committees	To anticipate negative trends in sectors of activity and prevent/manage any consequences as regards employment.	To guide towards expanding and emerging occupations. To recommend particular occupational mobility based on broad-based profiles, and job and skill affinity. To anticipate retraining and recycling in particular areas of employment and occupations. To certify qualification, recognising skills, whether acquired formally or informally.	To pinpoint training paths that facilitate (re) integration into the labour market and that respond to the needs of the production system.
Individuals	To understand the relationship between their job and other jobs, companies and the sector itself.	To increase awareness of occupations and the skills necessary for performing them. To guide their investment in training and functional and occupational mobility, facilitating employability.	To increase awareness of training available and the conditions for access to particular jobs. To guide investment in training and functional and occupational mobility, facilitating employability.

14. Finland

Olli Poropudas and Kirsti Stenvall

This paper examines the system for anticipating new qualifications in Finnish vocational education and training. The Finnish system of VET and decision-making processes are explained, methods of gathering anticipatory information discussed and evaluated and the role of the state and social partners and other aspects of institutional cooperation are reviewed.

Overview of the bodies involved in anticipation research and the methods used

The system of vocational education and training

The Finnish vocational education and training system can be divided into basic and continuing education sectors. Basic education refers to diploma-oriented education (or other vocational qualification) for young people or adults. Continuing education means post-diploma education which extends professional competence or specialisation; special professional qualifications, labour market training and personnel training are covered by this category.

The decisions on the quantity, structure and content of vocational education and training are made on two levels. The Government and the Ministry of Education jointly decide on general national objectives, on qualifications and their structures and on the quality and number of general studies; the National Board of Education determines the content of the core curriculum within the above framework. The quantitative objectives of education are confirmed by the Government in a national programme for the development of education and research.

Providers of education may decide detailed questions about national core curricula and about the adjustments required to satisfy regional and local needs. The Ministry of Education confirms the total number of students and the subjects in which education can be offered for each educational institution. Providers of education are entitled to decide individually on the curricula and distribution of resources in various fields of instruction. Employment and Economic Development Centres operating under the Ministry of Labour are in charge of the provision of labour market training, which is mainly intended for the unemployed.

Arrangements for anticipating training needs were changed in the late 1990s. Between 1975 and 1997, the Ministry of Education had been assisted in long-term forecasting of training needs by an advisory committee of educational planning (see below). Since then, responsibility for anticipating training needs has been given to the providers of vocational education and training.

The National Board of Education is the expert body assisting the Ministry of Education. Its duty is to develop basic education and vocational education and training. The national board also drafts national core curricula for initial vocational education and offers teaching personnel training on topical issues of educational policy.

The Ministry of Education is assisted by educational boards (six general and 24 branch-specific) which monitor the development of education supply; evaluate demand from the labour market; and anticipate the development of demand for vocational qualifications.

Vocational institutions, adult education centres and polytechnics have their own cooperation networks within the commercial and industrial sectors. Provincial state offices have also appointed regional advisory committees whose task is to anticipate quantitative and qualitative changes in educational needs. These include research institutions such as the Institute of Educational Research at the University of Jyväskylä (IRE); the Research Unit for the Sociology of Education at the University of Turku (RUSE), and the Research Institute for Working Life at the University of Tampere. Other organisations involved are the Research Institute of the Finnish Economy (ETLA), the Labour Institute for Economic Research (PT), the Confederation of Finnish Industry and Employers (TT), the Central Organisation of Finnish Trade Unions (SAK) and other labour market organisations.

With the support of the European Social Fund a programme corresponding to objective 4 is followed in Finland. This programme anticipates the qualification requirements and needs of working life and the labour market. The programme is managed by a group headed by the Minister of Labour and consisting of representatives of the Ministry of Education, the Ministry of Trade and Industry, the Ministry of Social Affairs and Health, social partner and other organisations. The programme is realised in cooperation with universities, research institutes, educational institutions and many organisations of working life.

Methods, tools and instruments

Methods of anticipating future changes are considered central to the development of the Finnish educational system.

The National Board of Education is involved with several development projects in which educational needs are evaluated quantitatively and qualitatively. Among the most important of these is the Ammattitaito-Suomi (Skill Finland) project concerned with anticipating qualitative and quantitative education needs of teaching personnel; this method uses traditional labour force forecasting methods. The National Board, in cooperation with branch-specific educational boards, is also responsible for preparing basic national curricula for initial vocational education.

Many other projects for monitoring skills requirements are funded by the European Social Fund (ESF). For example, in the Satakunta region a "training demand barometer" has been developed which is in the first phase of development for determining short-term training needs. The Confederation of Finnish Industry and Employers (TT) publishes a "skills requirement sounder" twice a year. Based on written questionnaires, this serves to chart the recruitment needs of TT member companies over three-year periods.

Municipalities, in their capacity as providers of VET, also attempt to forecast the effect of structural change on regional labour markets. The Association of Finnish Local and Regional Authorities has run four pilot projects in different geographical areas with different labour market characteristics. Surveys include statistical analyses and interviews with representatives of small and medium-sized enterprises. The results improve the comparability of qualifications for certain occupations and job contents.

An example of an anticipation technique currently in use is the so-called Vaasa Model, developed in the Vaasa District Labour Office. This short-term forecasting method considers labour force demand for the following six months and training needs for the medium term. The model's sectoral disaggregation of the labour force contains seven main sectors and 40 sub-sectors. Training needs are classified as labour market training, staff training, apprenticeship training and other adult training. The research combines quantitative and qualitative data-gathering processes. The quantitative analysis is based on empirical data; the qualitative part combines interviews with employers and analysis by expert panels.

Methods of transferring findings

Most information on qualifications trends is produced by the same institutions that also make decisions on the content of education: National Board of Education and its educational boards, Employment and Economic Development Centres, polytechnics and vocational adult educational centres.

One project is a continuation of the work of the education ministry's now-disbanded advisory committee on educational planning now being continued under the auspices of the National Board as the so-called Mitenna project, with support from the ESF. This makes use of the labour ministry's "PTM" forecasting model which provides long-term forecasts across 12 sectors. The latest report prepared using the PTM model, entitled "Labour Force 2017", evaluated short-term (2-3 year) and long-term (15-year) trends in labour market supply and demand.

Authorities can use anticipation results in making decisions about the national supply of education provided the research has been planned in cooperation with officials/advisors of education administration or provision system. Because the (100-odd) projects receiving funding from the European Social Fund are at some remove from decision-making, funding is often allocated to projects initiated by research institutions or consultants which are not always in close contact with decision-makers in vocational education.

The role of state bodies and the social partners

The task of the Ministry of Education is to direct education policy and create the appropriate conditions for developing and evaluating education. Tripartite educational boards have been set up to assist the Ministry of Education and the National Board of Education. Each board includes representative of workers' and employers' organisations.

Anticipating future skills requirements and the need for education is included in the work of many of the advisory boards involved in VET. Anticipation often means discussions by specialists on a general level and does not involve a systematic study on regional or local changes in working life.

European Structural Fund programmes and development projects have created many new contacts since Finland's entry into the European Union. Also the central labour market organisations actively participate in the existing cooperation of interest groups in the administrative sector of education.

The 1997 legislation

New educational legislation, in 1997, emphasized the importance of linking vocational education with working life. Before an accreditation for providing education can be obtained, the applicant must demonstrate that the education is needed and that the applicant has the facilities for operating an educational institution. On-the-job learning is one means of achieving this aim.

Assessment of current methods

In Finland, quantitative and qualitative forecasts of the demand for education is a part of the information management aspect of education administration.

Changes in education and working life can be estimated in more ways than one. Earlier Finland had a relatively strong tradition in forecasting quantitative changes in working life and the demand for education (labour force method). A structural change occurred, however, in the 1990s, and this tradition has partly been abandoned in favour of a modern method of estimating future needs for education known as anticipation. It can be stated, however, that anticipation introduced in this sense is as yet not established as a separate method or as an instrument of analysis in Finland, unlike the evaluation method used for public administration and education.

A strength of Finnish anticipation practice is that the acquisition of anticipatory information is generally closely linked to decision-making concerning vocational education. A weakness is that there are no strong and universal anticipation methods to estimate systematically the future content-related and quantitative needs for education independently of sector or region. Too large a share of anticipation information is applicable to only one sector or region. Classifications and concepts vary, so that it is complicated to transfer and compare the results, let alone to form an overall picture.

Another problem is connected with the fact that part of the work classified as anticipation in this report only extends to recording the present state of affairs. Only very rarely is it possible to actually estimate future development; more often anticipation means charting the present state, classifying and describing existing practices.

Several projects anticipating the changes in working life, the labour market and skill requirements have been implemented with the help of EU Structural Fund Programmes. Universities and various educational organisations have launched different development projects in cooperation with labour organisations. There are also several ongoing experimental and development projects anticipating the changes in working life in polytechnics and further education institutions.

Structural programmes (in particular the anticipation priorities of the Objective 4 programme) have resulted in new methods for anticipating quantitative education needs and the changing occupational requirements in working life. As far as anticipation of the changes in labour force is concerned, the implementation of ESF programmes has been focused on questions of employment. In vocational education the ESF programmes have emphasized the importance of anticipation of changes in working life and occupational requirements.

Unfortunately, the new standpoints on the anticipation of vocational education introduced by the ESF projects have increased the already large variety of methods in the field of anticipation, and those interested or already active in it have greater and greater difficulty in choosing the tools suitable for their purposes.

There has not been application of the results of implemented projects. Appropriations allocated to the methods and analyses of anticipation are, as yet, tied to the implementation of projects and not to the dissemination of results. Research and forecasting analyses still tend to be of academic nature and as such are not suitable as a frame of reference for developing vocational education. Neither have the results been applicable for education-related decision-making. The future scenarios offered by the research are alternative lines of development and do not provide a concrete foundation for practical decision-making. As a result, the impact of anticipation on the contents of vocational education has been rather insignificant.

Concluding remarks

The aim of work on anticipation of qualifications trends is to develop the link between VET and working life. Successful anticipation provides information on future qualifications and improves decision-making. Any anticipation which remains distant from political decision-making is far from being successful.

Anticipating changes, therefore, in working life should not be an end in itself but it should result in producing information useful for every-day education and training and for practical cooperation with working life. The relation between evaluation and anticipation of education should be studied and proposals made for the contents of the division of labour. Regional and local education evaluation should become more closely linked to the anticipation of the need for education.

Municipalities and federations of municipalities are responsible for providing initial vocational education and they should also have an unambiguous role in the anticipation of educational needs. The importance of regional educational planning has become increasingly clear. Educational institutions should increase their degree of responsiveness in relation to the changes of the labour market, ie be ready to quickly shift their educational supply when it seems necessary. The decentralization of educational decision-making will be fruitless if the informal processes are in conflict with the formal ones which presuppose both active anticipation of the changes of the labour market and quick reactions on the basis of the information produced by the anticipation system.

Anticipation work should generally be closely connected to decision-making organisations of vocational education and adopted as a permanent practice of these organisations. ESF projects have all too often been based on the work of research institutes, consultants and even individuals. In practice this means that after periods of ESF-supported activity, only a minor part of the anticipation knowledge obtained may remain in use while the project participants are transferred to new projects along with new funding.

Both nationally and internationally, various methods for anticipating quantitative needs for education have come into use during the past decades. Content qualification has proven to be more complicated. It has been extremely difficult to agree common methods and classifications with the result that anticipation work in this field has stagnated.

In general scientific research, although technically sound, is far too general in focus to be useful in practical educational planning. Researchers need to make their work more relevant for policy making.

Abbreviations

IRE	Institute of Educational Research at the University of Jyväskylä
RUSE	Research Unit for the Sociology of Education at the University of Turku
ETLA	Research Institute of the Finnish Economy
PT	Labour Institute for Economic Research
TT	Confederation of Finnish Industry and Employers
SAK	Organisation of Finnish Trade Unions

Overview: Methods, tools and instruments for anticipating new qualifications

User of forecast information	Producer of forecast information	Methods 1)	Sphere of forecast information 1)
Ministry of Education	Education committees Research institutes National Board of Education	Reports Research Projects	Structure, contents and quantity of education
National Board of Education	Training committees, National Board of Education units, research institutes	Expert work Mitenna project Other projects	Curricula Training needs of working life
Providers of education	Advisory boards, own units, research institutes, consultants	Specialist method, research and reports	Quantitative, structural and content-related need for education in the region of the provider
Provincial State Offices	Advisory boards, own units, research institutes, consultants	Specialist method, research and reports	Quantitative, structural and content-related need for education in the province
Ministry of Labour	Own units	PTM model The Vaasa Model	Developing education by sectors
Employment and Economic Development Centres/Employment Districts	Own units, research institutes, consultants	Training demand barometer of Satakunta region Occupational requirements sounder for Industry	Regional need for labour-market training, staff training, apprenticeship training and other adult training Regional short-term training needs, occupational requirements
Industry and Employers TT	Own units		Recruitment needs

		Four pilot projects	***of industry on a medium-range time span; needs for staff training***
The Association of Finnish Local and Regional Authorities ESF anticipation.	Own units, providers of vocational education	Funding and coordination of anticipation projects.	Developing methods for associations providing education
	Research institutes Consultants Public organisations.		Anticipating qualification requirements of working life and labour force.

1) Established systematic anticipation models are given in ***bold italics***

15. Sweden

Ingrid Levander-Bergstroem

In contrast to the thrust of other national reports, the Swedish report on methods, tools and instruments for anticipation notes a declining interest in this area of labour market research. Among the reasons given for this are that results obtained so far have been contradictory and that forecasting efforts have been generally unsuccessful. The report suggests there is an official acceptance that individual/student preferences will influence qualification trends as much as the demands of the labour market and the wishes of the policy makers. (This is also reflected in the comment that "social engineering is out of favour" in Sweden.) The content of study programmes is adapted to changing demands through the maintenance of a close connection between the labour market and the Swedish education system. There is a strong vocational component in youth programmes such as "labour market integration training", for example. Nevertheless, several bodies are involved in anticipation research or related studies including Statistics Sweden and the National Board for Industrial and Technical Development (NUTEK).

Vocational education and training in Sweden

Some VET is included within the formal education system in Sweden. At upper secondary school level, there are 16 nation-wide, three-year programmes, of which 14 are vocationally oriented. About 60 per cent of the students attend a vocational programme. At university and university-college level, there are about 50 professional degrees, including a university certificate in nursing. The local university or university college to a large extent shapes the content and safeguards the quality of its education and training.

Pure vocational training outside the above is of four types: municipal adult education, advanced vocational education and training, labour market training and staff training. The capacity and content are mainly dependent on the current labour market and only to a very limited extent on systematic forecasts.

Municipal adult education (MAE)

This is offered to adults who have not been educated to the standards of today's compulsory schooling. In addition, MAE offers a range of vocational and theoretical education equivalent to those of upper secondary school. (The responsibility for the official statistics covering adult education rests with the National Agency of Education, but these are collected and processed by Statistics Sweden at the request of the Agency. 50 per cent of the students joined vocational courses in 1996. Women and foreigners are over-represented.)

Advanced vocational education and training

This began in 1996 and is directed at school leavers and towards persons who have already found employment. This educational scheme features partly training on the job (one third of the total course) and partly theoretical studies relevant to the particular choice of vocational training. Entrance rules are the same as for universities and to be fully accredited, it must involve two years of full-time study. The aim is to fulfill a range of qualitative and quantitative human resource requirements within certain industrial branches and to chart the interest from industries and upper secondary school graduates in this kind of training. This pilot scheme is managed by a committee of representatives from employers' bodies, employees, the municipalities, universities and political bodies. It examines applications from educational institutions/enterprises that want to arrange these kind of training programmes, decides on funding, and has commissioned an institution to carry out a continuous surveillance of the programme activities with the focus on demand for education, design of courses and the importance of the economy for content and quality.

Labour market training

This involves vocational training, general education within specific areas required when preparing for a professional education, and IT training. It is designed for those who are, or likely to become, unemployed, have reached the age of 20, and are seeking employment through the official employment exchange office. Most training is undertaken by special labour market training centres and at commercial education institutions and has an average duration of three months. Decisions on the scale and scope of training are partly based on the results from surveys made by the Labour Market Board and Statistics Sweden, partly on demand by individual participants.

Staff training

This is supervised and, either partly or wholly, financed by companies which attempt to harmonize the technical skills and know-how of their employees with existing and future qualification requirements. Anticipation at company level on the need for staff training is based partly, and to a limited extent, on external information on the expected supply of an adequately educated labour force, partly on information on the competence of its current staff, but mainly on internal development plans of different kinds.

Policies, tools and instruments

Policies

Swedish educational policy aims at developing vocational or practical alternatives to a purely theoretical education and at the same time to avoid dead ends in the system. As a result, vocational training has gradually been lengthened in order to accommodate more theoretical subjects. Close co-operation with the workplace is stipulated for secondary schools but little is known of how this co-operation is carried out in practice. Within small and medium-sized colleges located outside the big cities, co-operation with local enterprise is increasingly common.

Institutional and structural context for anticipation

The Joint Industrial Training Council, formed by the Swedish Employers' Confederation and the Swedish Confederation of Trade Unions performs various functions: it investigates and reviews vocational training needs in fields of common concern; takes measures for expanding and improving existing vocational training; coordinates activities of joint committees (working at the level of the branch of industry); and keeps in constant touch with the principles of vocational training and the various public and private bodies active in this field.

The 25 diverse Joint Trade Committees, mainly operating in manufacturing, monitor how changes in work organization and production technology affect the need for education and training.

The National Institute for Working Life is the centre of occupational health and safety, working life and the labour market. It disseminates information and supports training and education, and carries out research.

The Royal Swedish Academy of Engineering Sciences is a network of experienced professionals in engineering and economy. It serves as an information resource and participates in public debate. Current projects focus on e.g. competence development within the infrastructure sector.

Tools and instruments at national level

A close connection between the education system and the labour market makes it easier to transform shifts in vocational qualifications into study programmes.

Every school has personnel working with vocational guidance and organizing study visits to workplaces for students. A considerable part of scheduled time is devoted to practical work. Qualified experts can be temporarily appointed as assistant professors at university and at technical colleges, students collaborate with private companies over examination papers. Each of the 14 national programmes in upper secondary school is revised by a committee of labour market representatives, active teachers and a few other experts. The committees use results from research into occupational structures, the change in structures and into the change of the content of different occupations. Basic information for the modernization of vocational training is also obtained from labour market experts. However, the sector representatives' everyday contacts with working life are the most important.

Vocational guidance

This is given in all schools and universities and at labour exchange offices by specially trained counsellors. Apart from knowledge of the local labour market situation, information based on forecasts is used in guidance, including texts produced by Statistics Sweden, the National Labour Market Board and the Swedish Confederation of Professional Associations (SACO).

Labour offices have interactive, self-service, database systems, where your own capabilities and expectations of a future job is matched with information on different occupations. The role of these information sources and forecasts is difficult to determine, since no proper evaluation has been carried out. Current labour market trends probably play a more important role than forecasts, while many students will select training that accords with their own personal inclinations.

Labour market integration training

Municipalities are responsible for promoting the education of all young people under 20. Those who are unemployed are offered labour market integration training, which often has a strong vocational component.

Adult education initiative

The municipal authorities are charged with the task of implementing the Adult Education Initiative which includes general education courses, vocational courses and orientation/counselling courses. The aim is to assist participants in achieving the necessary qualifications and competence levels for study at a higher level and to lay the foundations for life-long learning. There is to be an initiative for development of educational approaches and methods, by making use of assessments and exchanging experience and ideas.

Regional developmental agreements

The government has decided that economic policy is to be co-ordinated on a regional level, rather than on a national level. The county council, in co-operation with a broad spectrum of regional actors, has to present the regional plan, which is to become the foundation for regional developmental agreements. In the next couple of years, the regional developmental agreements are supposed to guide actions in the field of vocational training and education in Sweden.

Responses at company level

There is reason to believe that company level responses to nationally and regionally made forecasts on employment and qualification shifts are scarce and weak. Large companies, dependent on special education categories (e.g. engineers, medical scientists), often try to influence the planners of the education system through lobbying, in order to secure a sufficient supply of qualified personnel in the future. To what extent these actions are taken on the basis of forecasts of *future demand* in these special categories is very hard to say. Statistics Sweden's own research suggests that the state of the current labour market situation is the main influence.

How and to what extent do companies themselves try to anticipate future changes in vocational qualifications, and how do they prepare themselves to meet those changes? The most common policy to cope with rapid changes in the business environment is to maintain a *flexible organization* of production. This implies that the workforce should be less specialized and able to carry out a wider range of jobs within the organization.

Big companies, especially in the high-tech or other research-intensive sector, have their own departments permanently working with future vocational qualification issues. They are active in their efforts to influence educational planners and students in order to secure a sufficient supply of qualified personnel in the future. Some have even set up industrial upper secondary schools.

Recent surveys of company behaviour have confirmed that flexible work organizations achieve higher productivity. One survey suggested that forecasting the future occupational structure is impossible and that good business conditions at large are the main prerequisite for greater employment in Sweden. Notable trends in the development of working life are the changes from hierarchical to "flat" organizations, from simple to qualified work, towards teamworking, and from production to customer-oriented organizations. Some consequences of these changes of relevance to the education system are that good knowledge of technical and natural science subjects are crucial, that knowledge of foreign languages will be even more necessary today and that problem-solving and team work need more practice at school.

New tools at company level

Many companies are beginning to look into the possibilities of distance training e.g. via the internet. While the technologies may exist, vocational programmes are not yet fully available.

There are some tools that could become essential in analysing the relationship between company goals, work tasks and competence development. One example of how an IT tool might facilitate steering of vocational training in companies is the Competence Analysis Tool (Euroskill AB). This aims to support an effective competence development process in the company and to make in-house vocational training more effective. First, the company's goals are described; secondly, customers' demands are analysed; and thirdly, areas of competence and skills are defined. Then information from executive management, customers, managers and colleges is put into the database. The idea is to facilitate understanding of the needs to develop competence profiles for individuals and groups in relation to company goals, and also to detect in what way non-formal learning efforts have brought about changes in skill levels leading to better fulfilment of company goals and customer satisfaction.

Concluding remarks

Recent trends regarding the use of tools and instruments for adapting vocational training and education in Sweden are rather contradictory. Basic vocational training is based on students' preferences rather than on anticipated demand and possible shifts in demand by the labour market. Consequently, the development of new methods of anticipating such future demand has been rather low-key. Evaluation of such anticipation efforts has revealed severe shortcomings.

Recently, however, actors such as the Labour Market Board have become much more active. Lately, it has developed tools for medium- and long-term assessments of the future need for vocational training. Furthermore, the regional rather than the local level has become an increasingly more important arena for co-operation between companies, the educational system and governmental companies, though direct sponsorship by companies is still rare. Use of the Internet is becoming more widespread, although is still on a small scale.

16. United Kingdom

John Konrad and Catherine O'Sullivan[53]

This paper sets out the approach in the United Kingdom to the development of qualifications in vocational education and training. It discusses the current framework with reference to the NVQ system; awards of professional bodies; higher and further education establishments; and a more informal ad-hoc sector, which, the authors argue, demonstrates new areas of vocational activity in transition to the mainstream of accredited/validated qualifications. Current areas of debate are discussed in the context of national policy and an agenda for future developments in the UK is proposed.

Historical background

There are a number of forces in the UK, which work in uneasy partnership together in the provision of vocational education and training. These are considered briefly below and comprise:

- organisations concerned with the labour market, including Training and Enterprise Councils (TECs), and with the development of National Vocational Qualifications (NVQs) - national training organisations (NTOs);
- higher and further education institutions;
- professional bodies;
- ad hoc forces within society, reflecting what may very broadly be called the modernising agenda whose preoccupations are quality of life, community working and the environment.

It is clear that the continued influence of government on the labour market needs to be critically examined. The previous Conservative government believed that many, if not all, of the problems of the labour market could be solved by a combination of exhortatory policy such as National Targets for Education and Training, and deregulation accompanied by the introduction of "quasi-markets" (Konrad, J. 1995, 218:227). Since May 1997, the Labour government has developed its own policy agenda based on the intention to linking economic prosperity, democratic regeneration, and social inclusion.

The 1997 Kennedy Report, "Learning Works", identified the need for local partnerships to engage all stakeholders with the issues of widening participation. In 1998, responding to this, the Further Education Funding Council introduced a funding premium which increased the resources for students drawn from the most deprived areas of the country, covering about 25% of existing students (Melville 1999). In this context, whilst the Government has praised the TECs for their achievements in dealing with supply-side issues such as the improvement in skill levels, the TECs with their rhetoric of business-led development are increasingly marginal to the central policy concern of the present Government, to promote both economic development and social inclusion. (DfEE, 1997).

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[53] Helen Bowman, Researcher in the School, contributed to the final form of this paper.

"Poor skills and under-investment are major contributers to the under-performance of the English regions compared with equivalent regions elsewhere in Europe. ... [it is] proposed to address [this regional economic deficit] through the creation of Regional Development Agencies [RDAs] to bring greater coherence to the efforts of the many regional partners, including TECs. Skills will clearly be an important element in regional economic strategies." (DfEE, 1997: 1.11 & 1.12)

It is clear that the future development of the labour market will be based on regional partnerships within a common English national framework. Whether this pattern is followed under the new devolved arrangements for the government of Scotland and Wales remains to be seen. The parliament and assembly for these two regions have autonomy in the area of VET for the first time.

In this context, it is difficult to see how the concept of a *VET-system* could be readily applied to the *countries* of the UK in the same way as it could be under, say, the German system. In particular, with a few notable exceptions, there is no indication that trade unions or employers organisations have any interest in the *social dialogue* model where VET is one aspect of the collective bargaining process. Investment in human resources in the labour market is largely employer-led, involving individuals in the process only through internal organisational structures such as review and appraisal.

The UK labour market is probably the most deregulated of any in Europe and is thus more open to the impact of globalisation. A study of SME qualifications for the CIRETOQ network (Konrad 1998b) showed that the development of the higher level competence required by professionals in organisations subject to the impact of global competition requires new types of both initial and especially continuing VET.

NVQs and the Qualifications and Curriculum Authority

The total number of National Vocational Qualifications [NVQs] awarded has risen steadily. In January 1998, the Qualifications and Curriculum Authority was responsible for 814 qualifications, covered by 125 awarding bodies. In June 1995, the number of Certificates awarded was 885, 440. Two years later this had risen to 1,621,583 [83% increase in 2 years] and in September 1998 this had risen to 2,223,523 [37% increase in 16 months] (QCA 1999: 11). Although the majority of awards up to June 1997 were at Level 2 [39%], Level 3 awards [21%] made up the fastest growing level [up 43% over the previous year]. This is reflected in the age groups of those holding NVQs, with 330,000 [17%] being in the 16-20 age group and 420,000 [21%] in the 21-24 age group. These cumulative figures indicate that NVQs were an important means of qualification for those entering the workforce on leaving school or college. To put this in perspective, the total size of the economically active population 16-24 in June -August 1997 was 2,514,142. This indicates that some 26% of the economically active population 16-24 held NVQs, with approximately twice as many holding the award at Level 2, than at Level 3. Of the total awards in 1996/97, 33% were in the Business Services sector, with 11% in the Engineering sector. (DfEE 1998)

In contrast, it has been estimated that there are more than 100 professional bodies accrediting professional and vocational courses delivered within the higher education sector (Barnett, Becher and Cork 1987). These take varying approaches to the relationship between theory and practice, and may or may not be working towards developing competence-based models for practitioners in education and training. It is illuminating to reflect on the size and range of the provision that still remains outside the NVQ framework in considering the historical development and current situation of VET in the UK.

Structures of professional bodies and the view they take on the preparation and development of practitioners have developed in an ad hoc fashion. There is an extensive discussion of the history and policy implications, including the role of the state, in the first chapter of Eraut (1994). This study identifies four discrete models for qualifications for professional education:

- integrated academic award and professional qualification (e.g. nursing);
- dual qualification (law, accountancy);
- specialist qualification only (the newest IT skills);
- higher academic award only (many business related specialisations).

All of these models can be seen working, with varying degrees of harmony, within institutions of further and higher education.

Methods of transferring findings into the VET system

The NVQ model, in its simplest form, is now established in the UK and evaluations of its effectiveness have been carried out. Steedman (1998) has compared skills formation at intermediate level in engineering and construction over the past decade in the UK and Germany and concludes that there has been little change to the inter-country comparisons after 10 years of the new system in Britain. The UK continues to lag behind Germany in the production of skills at intermediate level.

Progress continues to be made on the development of higher level [levels 4 & 5] NVQs, but this approach continues to attract considerable debate as to its effectiveness, and the limitations of competence.

The authors argue in this paper that it is a mistake to consider that the UK has one VET system, and that it is equally problematic to consider that there are a number of independent systems which are mutually exclusive. Instead, there are interest groups made up from different sectors of the community which move in informal ways and which take cognisance of the broad sweep of work-related pedagogy. This offers opportunities for transferable mutual learning from different professional knowledge bases.

For example, FEDA (the Further Education Development Agency) has recently published proposed Standards for "Teaching and supporting learning in further education in

England and Wales". This can be seen as an industry led national training organisation following a traditional NVQ-style, competence-based model. However, an examination of the standards shows variously a requirement to keep up to date with ways of ensuring the currency and effectiveness of technical and educational competence and sources of professional development (domain-wide knowledge).

Role of the state and the social partners

The role of the State has, until recently, been confined to ensuring that the labour market functions efficiently and fairly through such legislation as the Trades Unions and Employment Acts (Konrad 1995). The State has not seen its role as defining the final shape of the market, nor the means by which it is delivered through the actions of the workforce.

In general, the law only regulates the status, education and training of major occupations of certain categories of professionals, as defined by statute and interpreted through the UK's liberal body of common and case law. There are many other professional qualifications, which are outside the scope of state intervention, by UK custom and practice.

Current unpublished research commissioned by the UK government appears to indicate that the role of the state, through such agencies as the Qualifications and Curriculum Authority (QCA), is to regulate the market for VET qualifications to ensure a widening of access and a coherence of standards of assessment. The experience of one of the writers indicates that, as far as NVQs are concerned, comparability of assessment within occupational sectors is still problematic. This is located within the wider issue of Quality Assurance in VET[54].

Currently the decision-taking process still largely reflects the apparatus created by the pre-1997 Conservative governments. The business domination of local provision through the TECs has already been discussed. The Further and Higher Education Act 1992, which removed FE Colleges from local authority control, established their governance under self-perpetuating bodies composed of a majority of representatives of local business. This resulted in the exclusion of trade union representatives who had formerly participated in governance, either directly, or as representatives of the maintaining local authority. The development of local partnerships designed to widen participation (as noted above) may modify this in future.

In the context of continuing change, influenced by global economic forces, we anticipate an extension of collaborative partnerships, based on a shared vision and an emerging common agenda. What this means in practice is that loose coalitions will come together in various sectors to determine the shape of education and training provision.

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[54] An early version of this position was presented as a conference paper and may be seen at http://www.leeds.ac.uk/educol/documents/000000889.htm.

Where professional bodies are strong, this debate will be led by the professions and may tend to lean towards the acquisition of technical skills and competencies, with a strong push to (increasingly compulsory) schemes of continuing professional development. The administration of such schemes will be managed mainly by the professional bodies and be a condition of continued membership, but delivery will probably be managed in institutions of higher education.

Assessment of current methods

The system of NVQs introduced under the direction of the National Council for Vocational Qualifications up to its incorporation into QCA in September 1997 resulted in a seriously flawed implementation of the concept of competence-based training. The problems identified by the Beaumont Report of 1996 are still evident. As a recently published study has indicated: "Workplace assessment by workplace supervisors is seen as a realistic test of competence. But there are identified barriers to supervisor assessment, which can be particularly difficult in SMEs. These include pressures of time and work, shortages of supervisors able and willing to assess young people, and problems in interpreting NVQ standards and performance criteria. Employers feel that provider-assessors bring greater consistency and hence transferability to assessments." (DfEE 1999b).

The problems of the TEC-delivered Government supported training sector continue to resist improvement. The number of young people in these programmes as at November 1998 was 2% lower than a year earlier and the number starting such programmes in the same period was 21% lower. In contrast, the Modern Apprenticeship scheme had grown by 18% and now represents 45% of all participants in work-based training for young people. More latterly however, the uptake of these programmes by new starters has declined by 10%. (DfEE 1999c) When compared with the issues of social exclusion referred to above, it seems surprising that this sector of the VET provision has not been more successful

Thus we see the NVQ system has difficulties when it is operationalised within the workplace. This is allied to issues about the current uptake, which may reflect either the perceptions of potential participants about the value of the qualifications, or an awareness of the weaknesses in the systems of delivery.

Therefore, within the UK, we see a comparatively fast system for identifying new qualifications, which may have a downside in relation to issues of appropriateness and quality.

Some recommendations for the further development of tools and instruments were made in 1998 in the final report of a project funded by the Economic and Social Research Council. The Learning Society programme on "the development of knowledge and skills in employment" (Eraut et al. 1998) raised some important questions about the ways that people learn at work, in both formal and non-formal ways.

The role of the state and the social partners

We have considered the current situation relating to vocational qualifications in the UK and examined the roles of the key stakeholders. We have examined some of the identified weaknesses in the NVQ system and looked at some recent work which argues for a greater understanding of the complex of variables which affect the qualification and learning needs of given individuals. Below, we illustrate some of these remarks with examples.

The first example is the work done in the city of Hull which is selected as a labour market sub-section in a region which spans the continuum of wealth and new jobs to extreme social deprivation. This is an example of a case where vocational training policies have needed to be matched very specifically to the local labour market. A study of 40 employers in 1997 suggests that employers' policy and attitudes to training confirmed a high degree of awareness of the need to connect issues of training and investment in employees and issues of competitiveness and flexibility.

An example illustrating the weaknesses of the UK CVQ system arises in the construction industry where it appears that after 10 years of NVQ delivery (of an intermediate level qualification) no significant differences to the employment prospects of young workers has been registered. A recent study (Steedman 1998) demonstrates that the uptake of intermediate level qualifications dropped dramatically with the introduction of NVQs, and in 1993 were just over one quarter of the level of enrolment of the awards they replaced (measured against enrolments to City and Guild qualifications in 1991). Although in part this was addressed in subsequent years, by 1996 they were still running at less than half of the 1991 base level.

This was recognised as a cause for concern by the Further Education Funding Council (FEFC), who measured the decline in the uptake of intermediate qualifications in construction as reaching 39%. This is far greater than the associated decline in both output and employment in the construction industry at this same time.

More work is needed to establish the reasons for this decline in participation in formal training. Among the reasons for it could be the perceptions of both employers and employees about the value of the NVQ's. Other reasons could be to do with the nature of the British labour market, which may insufficiently reward investment in the skills of individuals. Steedman's work appears to demonstrate that these qualifications are of an equivalent level to those in the same industry in Germany, so the level of practical competence assessed would not appear to be the issue. In this example, it would seem that it is the demand side, i.e. with the employers, that these qualifications are potentially undervalued.

A further example is that of the profession of social worker where an uneasy relationship exists between the professional bodies, employing agencies and the providers of the formal qualifications. Taylor (1997) has carried out a three year research project which tracked a cohort of students through their two year professional social work course and into their first year of practice. Doubt is expressed about the ability of any course to adequately prepare students for their eventual work situation. The volume of work assigned to the new students was in a completely different order of magnitude to their experiences while on work placement. Another obstacle, which was unforeseen by the course designers, was the scope of the paperwork, and the lack of clarity about its purpose. Nonetheless, three quarters of the student population surveyed expressed satisfaction with the course as a preparation for professional life.

In considering the role of the Central Council for Education and Training in Social Work, Taylor finds that they have been slow to define exactly what is required of a social worker. It was not until 1995 that specific and detailed competencies for practitioners were identified, and the relationship between the objectives for students and those of the profession have not been worked through. Taylor argues that it would have been more appropriate to focus less on short-term goals and skills acquisition, and more on enabling independent learning in the individual (p.81). This, she argues, is illustrative of the pressure, coming from employers and government, to focus on what students learn rather than how they learn. In her own context, she sees this as a tension, rather than a collaboration, between higher education and the professional body/employers.

Results of a commitment to life-long learning

An exemplary trend is the high rate of recruitment to formal education of higher-than-average numbers of learners over the age of thirty. The evidence for this was presented by Healy (1996) in a study commissioned by the Organisation for Economic Co-operation and Development (OECD). His paper addresses international comparisons on lifelong learning, relates this to economic outcomes, and includes some fascinating discussion of the methods of measuring the value of education to its different consumers. He concludes: "At higher education level, the United Kingdom has an exceptionally high level of mature students (aged 21 and over) entering for the first time. The number of 21 year olds or older accounts for almost one third of new entrants to higher education courses in the UK compared to less than 10 percent in many other European countries...The proportion for 30 year olds and over is 17% in the case of the UK - a relatively very high figure by international standards and one which in the EU is not reached except in Sweden and Denmark."

He sets this against the generally lower levels of attainment in the adult population in comparison with other countries with respect to lower level VET qualifications. While it could be argued that the higher uptake of older students represents a market response to the standards of education received in earlier life, it must also be seen as an outcome of the systematic commitment to life long learning in the UK throughout this century. The existence of Colleges of Further Education, and their increasingly dynamic links both to higher education (even, as with Leeds Metropolitan University, to becoming a distinctive part of a university) and to industry can be seen to have had a positive effect on the willingness of the workforce to engage in the many flexible forms of part-time learning offered within the UK.

Recommendations and conclusions

Firstly, we believe that it is necessary to examine more closely the circumstances in which qualifications are more or less successful. We have argued for a pluralist system, which allows different industries and sectors to identify different frameworks for qualifications. Further, we have argued that this allows for cross-fertilisation and transferable learning, as in our example of the proposed standards for FE lecturers which are heavily influenced by a model for professional education which is articulated in higher education, rather than by employer led bodies.

We have examined a number of occasions where the short-term goals of the labour market or of politicians may have conflicted with the needs of students as they perceive them. Further work needs to be done on how people learn in work, what learning they value, and how this can usefully be assessed and accredited within formal qualification structures. This should lead to fruitful developments of the existing systems, rather than a wholesale replacement of structures that are becoming increasingly embedded.

We have looked at some studies which seek to discuss the complexity of individual learning, and recommend that further work is done to expand and develop these methodologies to allow for greater comparative work; and we recommend that this work not only looks at inter-industry and international comparisons, but also considers the different needs at different stages of the learner's life.

This will lead to an increased understanding of the relationship between initial and continuing education, the place of employers' human resource strategies within that, the capacity of individuals to develop their own strategies for learning and the role of the supply side of the labour market in facilitating the conditions for professional updating.

Finally, we recommend that developing or emergent occupations are made the focus of particular attention. It is in such cases, where new approaches are harnessed to a wish to become part of the status quo, and where common interest groups are active in exploring old questions in new ways, that insights can be gained into the wider cultural understanding of the meaning and value of competence and qualifications for today's society.

In the wider context of Europe, we would wish to see more comparative studies, which explore alternate solutions to shared problems. Here, we feel the methodological issues remain a particular problem, as discussed by Eraut et al, Laske and Healy in the papers cited above. There are a number of possible avenues to explore, from the straightforward comparison of uptake at different stages, to the comparisons of assessed work carried out by Steedman, to a full scale attempt to set learning within its culturally specified manifestations in the way proposed by Laske.

An encouragement of experimentation, together with an honesty about success or failure, is part of the context of such work. An investment in longer-term studies that track groups of learners through their working life is also vital in the development of our understanding of the ways learning can be supported by policy makers. This is not likely to be a popular option, as it is both expensive and does not meet a political need to be seen to be active in implementing change. Nonetheless, it seems to be the only real way to gain understanding of the ways the workforce adapts and learns through periods of turbulence and change.

Abbreviations

FEDA	Further Education Development Agency
FEFC	Further Education Funding Council
NTOs	national training organisations
NVQs	National Vocational Qualifications
QCA	Qualifications and Curriculum Authority
TECs	Training and Enterprise Councils
DfEE	Department for Education and Employment

Forecasting instruments, main players and their roles

Main Instruments and Actors	Roles
Labour Market organisations: National Training Organisations [NTOs] and Training and Enterprise Councils [TECs]	Setting national standards for work place training and ensuring that this training meets local needs. This model is currently under review and subject to considerable criticism by both academics and employers.
Universities and Colleges	Providing effective and efficient education and training. Funding provided by Agencies of Government who are responsible for implementing policy, but are not directly accountable to parliament. Some concern for improvement of standards, but relatively little autonomy.
Professional bodies	Responsible for the content and the quality of delivery of initial and continuing VET. Degree of control depends on both legal status and prestige. Wide variations in practice and contrasting models of provision.
Modernising forces focusing on quality of life	Exerting pressure on the formal system and attempting to establish alternative paradigms.
Central Government	Setting policy, establishing priorities and mechanisms for funding, regulating the quality assurance process and modernising systems of administration.

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IV. Annotated bibliography

Whereas the background papers commissioned by CEDEFOP and their assessment/summaries in the synthesis report illustrate the most recent developments in the respective Member states, the annotated bibliography underlines the fact that the issue itself is on the agenda already since the early 90's and that a lot of methods, tools and approaches were proposed, which, however, do increasingly find a positive echo in policy actions both on Member state (national, regional and sector) and on the European levels.

Federal Ministry for Education, Science, Research and Technology (1998), *Potentiale und Dimensionen der Wissensgesellschaft – Auswirkungen auf Bildungsprozesse und Bildungsstrukturen,* Delphi survey 1996-1998 – final report submitted by Prognos AG, Basle (Stock, J. *et al.*), Basle, 309 pp.

This survey, employing the Delphi method, produced a wide variety of results (for methodological reasons) and made their interpretation difficult. Despite this diversity, a number of "outlines and focal points" are apparent (p. 183): "The experts expect to learn something new especially in the already topical fields of biological and ecological sciences and … in connection with the spread of information and communication technologies. They have equally high hopes … of new discoveries in overcoming the associated risks, their impact on social relations and the issues of qualification, organization and management in a changing environment." Particular emphasis is placed on knowledge and skills in the areas of "system relationships", "interdisicplinarity" and "general knowledge", which need to be intensified irrespective of the technical knowledge that will still be needed.

Reading further (p. 185 f.): "The fundamental skills and abilities are no longer confined simply to the general cultural skills such as reading, writing and arithmetic, though these are still as essential as ever…. They have to be supplemented by knowledge of the handling of information and communication media, visual forms of expression and foreign languages. … Just as important as the general cultural skills are pedagogic and social skills, and personal abilities to deal with uncertainty and retain the ability to act in changing situations. This means that the concept of a 'completed' vocational training course, as the result of a self-contained segment of an individual's life, is becoming more and more of an illusion. Vocational training has to be acquired and renewed continuously, throughout the individual's life: a specialist finds it increasingly easy to fall into the trap of specialization."

In the meantime, the question of which fields would in twenty-five years' time form part of the knowledge of an educated person largely confirmed the existing canon of disciplines (mathematics, science, history, literature, philosophy, art and music). These subjects would, however, be joined by other attributes enjoying equal status: especially health, personality, politics, law and economics, language and communication, which it was felt would provide essential guidance in an increasingly complex environment. Finally, relevance to topical themes/problems of society was emphasized: in addition to the ecological and biotechnological themes mentioned above, mention was made of multiculturalism and global relationships, the professional world and the employment market, and a critical approach to the media.

"In this context, 'training' is once again coming to mean 'training oneself', 'finding one's way'. The boundaries between living, working and learning are becoming increasingly fluid. Training is becoming the result of an alternation between formal and informal/situative learning that often varies from one individual to the next. It follows that new answers are needed to questions about the importance of organized learning, and about future syllabuses and curricula and the associated final qualifications."

Cappelli, Peter and Nikolai Rogovsky (1994): *New work systems and skill requirements*, in International Labour Review 1994/2, special issue, 205 pp.

Improving competitiveness without reducing wage standards would be the concern of many industrialized countries. The authors consider the attributes, achievements and failures of new work systems (lean production and high performance) and their skill needs, contrasting them with earlier systems. The typically participative, autonomous yet highly interdependent work groups in high performance systems often hold requisite skills collectively: job rotation, cross-training and supportive personnel practices would occur. The future prospects would be linked to the need for an increased flexibility and "quick response" production to meet rapidly changing consumer tastes and a wider skill range and greater worker autonomy would be in demand.

CEDEFOP (1999/2000*): European Trends in the Development of Occupations and Qualifications*, 2 volumes (Author: Burkart Sellin)

These two volumes cover a description of main trends throughout the European Union (Volume I) and in the light of specific themes covered by experts and researchers in volume II, which has the character of an academic manual on this topic, national and trans-national developments are analysed. The recent work of CEDEFOP's network for research cooperation on trends in occupations and qualifications (Ciretoq) is referred to and reported on as well as methods and approaches to forecasting trends are discussed and presented by some 20 researchers from all over Europe. This work can be regarded as a complement to this more technical report presented here and wants to have a wider impact on policy and practice.

CEDEFOP/DIPF (2000): Comparative *Vocational Education and Training Research in Europe, Approaches, Policies and Innovation Transfer*, a reader based on the European Conference in Bonn 1998 organized by CEDEFOP and DIPF together with the European Training Foundation and the German Ministry of Education and Research, forthcoming, ca. 450 pp., Editors: Uwe Lauterbach and Sellin, Burkart.)

This compendium is a rich resource base of research undertaken in the last 10 years in Member states of the EU and in Central Eastern European countries. Different approaches and trans-national experiences are presented and were discussed. A number of these were supported by the organising institutes and by European programmes, e.g. the Leonardo da Vinci Programme and the 4th Research Framework Programme (socio-economic strand) of the EU. The role of comparative VET-Research is addressed more specifically. Overviews on EU- and CEE-comparative VET-Research approaches are give.

CEDEFOP (1998): *The impact on vocational training of studies analysing and forecasting trends in occupations, case studies in Germany, the Netherlands and Denmark,* Thessaloniki, 84 pp.

Even if this was only an explorative study launched within CEDEFOP's research network on trends in occupations and qualifications, the authors, however came to some overall conclusions and to quite a number of specific suggestions (p. 75):

"Findings from occupational analysis are by no means copied for the sake of curriculum development, be it legislation in the form of training regulations or the development of educational plans. Curriculum development is a complex process which involves many actors and often has more than one objective…. Social partners play a strong role which varies, however, from country to country, depending on the different national structures and procedures for revising or developing VET curricula."

In addition a number of special points of interest/findings were discovered (pp. 76):

"… the impact is due to bargaining processes rather than being a smooth transfer of results"

"… it appears that specific research results are often an important but not the only information source for curriculum development"

"… the researcher should perhaps be more concerned with the stimulation of curriculum development ..."

"... a distinction should be made between need-oriented and demand-oriented approaches..."

"... how can research describe 'the future'?"

"... there may be a difference between research which aims at the revision of existing forms of education, and research aimed at the development of new forms ..."

"... can the results of action research be generalized?"

In addition the authors and work group members make a number of suggestions for further investigations.

CEDEFOP (1998): *Spain, the national institute for qualification*, CEDEFOP-Info 3/98

The purpose of this recently established institute would be "in conjunction with the National Council for Vocational Training"(a tripartite body) to:

"... propose the establishment and management of a national system of vocational qualifications ...

... draw up criteria which will define the requirements and characteristics of vocational qualifications for incorporation in the national system of vocational qualifications,

... design a basic methodology to identify professional competences ...

... propose a system for the accreditation and certification of vocational qualifications...

...

... establish the procedure which will enable the agencies or institutes of qualifications set up by the Autonomous Communities and the social partners to share responsibility for the definition of the Catalogue of vocational qualifications and the updating of sectoral requests...

...

... facilitate functional interrelations between the training activities of the three different vocational training sub-systems, and the titles and certificates in the system of occupational classification resulting from collective bargaining,

… carry out the tasks required to establish a reference framework for the general programming of all the sub-systems and to support legislative and regulatory action for vocational training."

CEDEFOP (1999): *Belgium, development of occupational and training profiles in the Flemish Community*, CEDEFOP-Info 1 /1999

In this one page article it is reported that the Flemish Social and Economic Council (SERV) started in 1997 to "systematically describing job contents for most of the economic sectors … using a methodology culled from tested international methods and established by the Higher Institute for Labour Market Research (HIVA)". A number of major training organizations would use "the new job descriptions in the development of their respective training programmes…".

The Fund for the Vocational training in the construction sector (FVB) would have signed a special agreement with the educational authorities, "in order to ensure close co-operation in the field of technical, vocational and special (secondary) education for future construction workers. The agreement stipulates the organization of practical training periods in this sector, where vacancies remain hard to fill."

European Commission (1994): *Growth, competitiveness, employment, the challenges and the ways forward into the 21st century*, white paper, Luxembourg

In this document the European Commission is emphasising the importance of anticipation of future skill needs (chapter 7 on: "adaptation of education and vocational training systems"). Measures for developing and adapting the vocational training systems should be as effective as possible and therefore would it be "… necessary to anticipate skill needs correctly and in good time by identifying the developing areas and the new economic and social functions to be fulfilled, as well as the skills required for them. Even if real-time adjustment is not possible, the organization of as much research as necessary in this area and the introduction of observation instruments and the mechanisms for transferring the information collected to the education system should make it possible to minimize the gap between required and available skills."

European Commission (1995): *Anticipation of Training and Skill/Qualification Needs, a synthesis of results gained in the Force*[55] *and Eurotecnet programmes*, working paper, DG XXII, Brussels, 41 pp.

In order to support a "…pro-active updating of programmes' training content …" an

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[55] Force was the Community action programme for the promotion and development of continuing vocational training in Europe. It started in January 1991 and ended in December 1994. Its objective was to develop and improve the quality and the amount of continuing training provided within companies in the Community. Eurotecnet: see above.

Analysis System for Training and Education Renovation (ASTER) was developed jointly by Eurotecnet and Euroform[56], "... which could be a good basis for anticipation of training and skill/qualifications needs". (p.22) In-company qualification analysis and the development of new occupational profiles or job descriptions would be very difficult without taking into account the respective work organization and working conditions, on how the work is or will be organized. The report also summarises the main results of the trans-national sector studies, which were published by CEDEFOP in the 90's[57]. Surveys were undertaken in the following sectors: a) Automobile repair and retail sector, b) Food products and beverages sector, c) Retail sector. In the conclusions on this chapter it is stated (p.28): "Concrete definitions of future skill and qualification needs can hardly be found in the three sector surveys. Common results are however that general and basic qualifications will be more important in the future. There are different approaches focusing on the importance of key-/core-/transversal competencies in vocational training. For example qualifications like mobility, flexibility, transfer-competence and quality consciousness are likely to become more important. "... the sectoral approach leads to the definition of key-qualifications in each sector. This is an important prerequisite for defining skill needs in every sector." In its main conclusions (p. 37) it is underlined, that "Industrial change has turned out to be a major challenge for European economy and an important catalyst for the assessment and anticipation of skill and qualification needs in the enterprises. Given the diversity and complexity of industrial change (structural, social and technological, ...) and its effect on economic life, skill needs analysis has to be carried out at different levels and with regard to specific demands (e.g. sectoral or individual needs). Profound changes in the economic structure almost necessarily entail changes in work and enterprise organization as well as in tasks and occupational/job profiles. ...the implementation of skill assessment mechanisms and training measures is essential for companies in order to keep up with change and increasing competitiveness, to prevent unemployment and to contribute to a better qualification of staff..."

European Commission (1998): *Programm Eurotecnet Abschlussbericht der Kommission, Januar 1990 bis Dezember 1994,* document (Council Decision 89/657/EEC of 18 December 1989), Brussels (first published in EN 1995: *Human resource development and training strategies: the experience and results of the Eurotecnet programme,* 62 pp., Brussels/Luxembourg)

The aim of Eurotecnet was to encourage innovation in basic vocational training and retraining, with a view to taking account of contemporary and foreseeable technological change and its effects on employment, work and qualifications. The main focus was on the study of certain key thematic areas, such as the "learning organization", "key qualifications", "training of trainers" and "innovations in the training system". Some seventy academic and specialized publications were produced (see p. 18 ff.). On 11 and

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[56] Euroform was a Community initiative supported by the European Commission's DG V which focused at skill profile's and qualification's development in different member states and regions/sectors, which were eligible for social fund's interventions.

[57] See CEDEFOP's list of publications.

12 November 1994, a final conference was held in Manchester entitled "Vocational Training and Innovation in Europe".

In the concluding remarks (p. 15 ff.) a number of central results were emphasized:

1. "The advancement of knowledge needs to be integrated into a strategy of comprehensive improvements."

2. "The aim must be the high-efficiency organization."

3. "Learning and not just training must be the aim."

4. "The improving of skills needs to be integrated into the working procedures."

5. "The community approach by groups of undertakings that commit themselves to common learning is to be encouraged" (this refers especially to small and medium-sized enterprises).

6. "Integration of the active participation of the social partners."

The application of these six principles would help to improve competitiveness, which might result in growth that, in turn, would increase job security for European employees.

European Commission, DG XXII, Education, Training and Youth (no date): *Skills for a competitive and cohesive Europe, a human resources outlook for the 1990s*, no location (also available in DE and FR)

In the executive summary (p. 3) it is stated besides others:

Point 6: "Ensuring a favourable environment for competitiveness with regard to human resources will need to be based on three key areas of action:

- anticipation of change,
- adjustment to change, which needs to be speeded up,
- adaptation to change in a socially acceptable way."

Point 8: "As a consequence of massive changes which can be expected, the skills of Europe's labour force need to be continually updated so as to avoid social exclusion and high economic and social costs. To this end education, training and retraining should be a priority investment."

And in point 9: "…the labour market is characterized by structural mismatches because of inappropriate skills and … growing structural unemployment. Labour force skill deficits and obsolescence have become apparent and remain despite high unemployment. … changes underway and those foreseeable in technologies and work organization resulting from competitive pressures will require significant changes in skill profiles. Industrial restructuring also calls for individuals to become equipped with new skills and qualifications."

Lindley, Robert (1995): *Strategies for European Analysis of Occupations and Qualifications: Lessons from a modelling exercise,* paper presented to the CEDEFOP-Ciretoq Conference on new methods and approaches for Research on Trends in Occupations and Qualifications in Marseilles, November 1995 (mimeo)

Based on the experience with the Medium Term Employment Forecasts funded by the European Commission, DG V[58], the author was drawing a number of lessons for future analysis of occupations and qualifications on a comparative European level. In his conclusions he stated: The aim of data collection, data conversion, monitoring and modelling would be to promote greater understanding of substantive phenomena. A better quantitative basis for policy design and analysis in the field of education and training should be found. Its principal concern would be with evolution of the structures of occupations and qualifications. The approach needed is one that keeps in mind that quantitative evidence will sooner or later have to be integrated with qualitative evidence.

It would be necessary to :
- sharing existing experience;
- improving the overall strategies for analysis,
- developing better practice, using new techniques,
- anticipating future structures and the likely provision of statistics.

Surveys should cover both those in employment and the different groups within the non-employed population.

The main areas should be:

- hours of work and patterns of working hours;
- occupational structure;
- acquisition of cognitive and manipulative skills;
- distinction between qualification and certification.

The intermediate skills area would be particularly in need of study and comparative analysis with both quantitative and qualitative elements, this area could provide a coherent programme for a Ciretoq activity.

OECD (1999): *Employment outlook*, Paris, 252 pp.

In the editorial with the sub-title "giving youth a better start" a number of "key challenges for policy in the domain of education and training" are underlined:

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[58] See for instance: Morawetz, R. and K. Vogler-Ludwig (1993): *Medium Term Forecasts of Employment by EC Districts and Sectors of Industry. Module 2: Employment Forecasts,* European Report (Munich, IFO-Institut, mimeo).

Drawing from the differing approaches of (clusters of) Member countries, the following key challenges are stated (p. 8):

"Preventing failure at school…"

"Ensuring that young people, including those who complete upper secondary, are employable, both when they first enter the labour market and over time…"

"… to intervene *as early as possible* in favour of at-risk youths including education and care prior to the start of compulsory schooling…"

"… development and re-appraisal of the vocational stream within the initial education system…examples are Australia, Canada, Spain and the United States."

"… further blurring the boundaries between vocational and general or 'academic education', as in Norway and Sweden."

"The development of double-qualifying pathways…" which would have risen the participation rates in vocational and technical education in Austria, the Netherlands and Norway.

"… to create better linkages between education and employment…" in further developing "… the so-called 'dual' or traditional apprenticeship systems in Austria, Denmark, Germany and Switzerland".

Emphasis in countries with a less developed vocational education sector would have been placed "on the development of unified qualification frameworks." This would help "…to provide the informational and incentive structures needed to spur pupil achievement, encouraging higher educational aspirations and skill outputs."

"The introduction of work-based learning within schools", for instance in Australia, Canada, the Netherlands, Norway, Sweden and the United States. However in Canada and the United States the "… participation in programmes that combine work-based learning with school-based education"… would remain low.

"Whatever the type of links between work skills and content of education, the involvement of employers and employers organizations in the design of occupational qualifications is very important in tailoring curricula and programmes to match current and emerging labour market needs. This is done either through advisory committees that assist educational authorities or through tripartite decision making bodies with strong employer and trade union engagement, as in the apprenticeship countries."

Schömann, K., Hilber, Ch. and S. Gülker (no date): *Qualification requirements in OECD* *member states, Investigation, analysis and implementation,* interim report, Wissenschaftszentrum Berlin, 39 pp. mimeo.

The authors draw from the experience in several member states (e.g. Germany, United States, the Netherlands, Britain and Canada) and make some suggestions for further studies in a comparative perspective. They are part of an international researchers' network which is planning "to undertake an international comparative study of the contents and procedures for determining qualification requirements and to issue recommendations which can be applied" within the German context (p.4.). The approach is based on an analytical reference framework as suggested by Schmidt (1994) for an international comparison of employment systems.[59] In addition they propose "long term international comparisons through benchmarking" in the last chapter of their paper: "... a concept of international benchmarking could be developed with the aid of the Radar Chart method. This method has recently become very recommended by the European Commission for employment strategy planning[60].... The fundamental idea is to use a few comprehensive indicators to list the various aspects of policy success...". However, ... the difficulty in this method is on the one hand to establish an appropriate set of indicators, and on the other hand, to quantify these indicators which ... are qualitative.... If the indicators are fixed and operationalized, one may assume that a regular survey of the necessary data every twelve or six months is possible with a relatively low financial outlay."(p.36)

Sellin, Burkart (1996): *Do joint European vocational training standards stand a chance? Recognition and transparency of qualifications* (DE, FR, EN), 49 pp., CEDEFOP Panorama, Thessaloniki.

The author begins with a chronological summary of the results of efforts by the EU (and previously the EC/EEC) to implement the principle enshrined in the Treaties of free choice of workplace (freedom of movement and right of establishment) within the Union, and to implement the requirement of non-discrimination on the basis of nationality by applying the principle of recognition and/or transparency of vocational skills documentation (diplomas, certificates, etc.). He then goes on to discuss the most urgent needs in the light of the legal situation after the Maastricht Treaty, and the possibilities of reaching agreement throughout the EU on minimum standards in education and training and approximating the various qualification and vocational profiles. He describes the Commission's efforts to approximate legislation, the work done by CEDEFOP to implement the Council decision on "comparability" and the results achieved, and relates these to the relevant projects in this field forming part of the Leonardo da Vinci vocational training programme.

In his conclusions ("What needs to be done?") the author makes the following suggestions for future efforts by the EU, involving the governments of the Member States and the social partners (p. 12):

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[59] Schmidt, G. (1994): Reorganisation der Arbeitsmarktpolitik. Märkte, Politische Steuerung und Netzwerke der Weiterbildung für Arbeitslose in der Europäischen Union, discussion paper FS I 94-213, Wissenschaftszentrum Berlin für Sozialforschung, Berlin.

[60] European Commission (1998): Joint employment report 1998, Brussels.

"a) The desirability of developing a common guiding framework for forward-looking qualifications and vocational profiles is probably undisputed. The only dispute concerns how binding it should be. … What is needed is an improvement throughout the EU in the conditions allowing effective use of the expertise that already exists in many areas, and especially the appropriate involvement of the employers' and employees' organizations in this work.... We should, or could, begin discussions on vocational profiles or practical skills with some of the sectors or vocational groups that [are already involved in] the comparability system or the work of CEDEFOP (retail sector, tourism and/or construction). …

"b) Participation in such work, and other parallel efforts, by the Member States would of course have to be on a voluntary basis: in other words the results of the work would not be directly binding until they were applied by the competent organizations themselves. The Member States, and the social partners, would retain complete freedom to decide whether and to what extent they wanted to use them ….

"c) It is not too early to make a start, at the initiative of the Commission and with the support of CEDEFOP, on improving the institutional preconditions for the ongoing exchange of information and experiences in the field of qualification development and comparison."

Sellin, Burkart (1994*): Zur Transparenz der Ausbildungsgänge in der Europäischen Union,* in: BIBB[61] (ed.): Transparenz in Europa und Evaluation beruflicher Ausbildungsgänge, Stand und Perspektiven in der kaufmännischen und verwaltenden Berufsbildung, Berlin/Nürnberg, pp. 17-44.

In this article, the author reports on the status of implementation of the Council Decision on the comparability of vocational training qualifications between the Member States of the Community (85/368/EEC), and describes the procedure used by CEDEFOP and the results achieved. About 90% of all skilled workers at the skilled waged/salaried employee level of EU "Level 2" in 19 sectors or vocational fields, or about 200 vocational profiles, were covered, described by mutual agreement and published between 1987 and 1992 in the Official Journals of the EU (Communications series). Although these vocational profiles could reasonably be described as "EU profiles", they do not in themselves amount to binding EU minimum standards. However, if the political and social actors were to make an effort to achieve this aim in the future, these profiles would probably be a suitable basis for discussions on further progress.

In addition, the author casts some light on the development of the vocational requirements across the sectors studied, together with sector-specific developments, paying particular attention to commercial and administrative occupations. He arrives at the following multisector conclusions (p. 23 f.):

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[61] BIBB = *Bundesinstitut für Berufsbildung* [Federal Institute for Vocational Training].

"The areas of activity in manufacturing industry that are male-dominated, such as mechanical engineering, iron and steel production, construction and electrical and automotive engineering, generally display a relatively high level of professionalization and formalization, so that training qualifications are quite important. By contrast, less importance is attached to formal training qualifications in sectors of industry that employ large numbers of women. These include, in particular, the food and textile industries, the catering, hotel and tourist trades, and to a lesser extent the retail and administrative sectors. However, this dichotomy is starting to disappear: requirements seem to be moving closer together, even though typical features of certain disciplines and vocations are likely to survive.

"All sectors and vocational groups are characterized by two basic trends as regards what they require of skilled workers, including those on EU Level 2:

- trends associated with technical organizational innovations; and
- trends associated with growing and increasingly rapidly changing customer expectations.

"The technical organizational innovations are mainly connected with enterprises' increasing use of planning, process, control and workplace computers, and their networking – internal networking in the first instance, but in many cases involving other enterprises as well. The effect of this is the increasing reciprocal integration of functional areas that were previously largely isolated.

"As far as qualification requirements are concerned, these innovations are producing three main results:

- employees are having to learn to work much more closely and directly with other vocational groups; interdisciplinary cooperation is the order of the day;
- traditional functional areas are breaking up or becoming restructured, with integration of functions and shallower hierarchies; areas or responsibility are being reorganized in the form of "downward delegation";
- competence in the field of electronic data processing and associated systems is becoming a general, multisectoral requirement for virtually all employees.

"Increased customer expectations are giving rise to two main effects:

- the first is an increase in the level of quality expected and a greater diversity of product versions, combined with the need for enterprises to demonstrate more flexibility in the organization and conversion of production processes;
- while the second is that customers are becoming more ecologically aware, and so attaching greater importance to production – and products – that reduce consumption of resources and energy and impose less of a burden on the environment.

"... Customers' quality expectations can only be cost-effectively satisfied if the quality of the work done at each individual workplace is improved: a change from quality control to integrated quality assurance. The required diversity of product versions can be achieved only by employees who are flexible, can adapt successfully to meet new situations and have the ability to take decisions: qualifications need to be transferable from one workplace to another. Customers' increasing ecological expectations call for qualifications that allow products to be developed, produced, marketed and disposed of or recycled with economical use of resources and a view to life-cycle management." See also CEDEFOP Panorama (Author: B. Sellin): Supplement: Compendium of occupational profiles ... Thessaloniki (nine languages).

Scienter (ed. 1992): *Guide on how to approach training needs analysis at regional and sectoral level*, 47 pp., Bologna, mimeo

This brochure elaborated with the support of the European Commission's Task Force on Human Resources established a tool for assisting those engaged in training (and skill) needs analysis.
Some hints concern the macro level approaches, but most of them focus at the micro level social-economic environment, sector and regional levels:

"TNA is normally done by approaching a sample of enterprises and/or groups of experts. The direct surveys in companies adopt several approaches: postal questionnaires, short in-depth interviews, case studies, panel discussion with a company, panel discussions with a group of companies"(p. 38). In addition the Delphi method is explained which would be most appropriate for medium and long term forecasting exercises. Trends analysis, regional and industrial sector reports would be most significant too and should be used to isolate specific indicators in order to structure the other tools mentioned

Singh, Ajit: *Global economic changes, skills and international competitiveness*, in International Labour Review 1994/2, special issue: Competitiveness, equity and skills, 167 pp.

This article reviews important changes in the world economy, analysing implications for industrialising economies' skill requirements and international competitiveness. The author argues that the North's information technology revolution has not so far dented the South's competitiveness. With an improved infrastructure of education, science, technology and training systems industrialising countries would now possess (particularly in Asia but also in Latin America), such technological challenges could be met. However, it would be hard for many to continue successfully operating their national systems of technological accumulation.

TARGET (ed.) (1995): *Skill needs analysis – the way forward*, reports from the 1995 Cumberland Lodge conference, 63 pp. (mimeo)

This report is documenting the main input into the conference on the different approaches and experiences linked to skill needs analysis in several European Member states, regions and sectors: A European level skill needs project was introduced by Jürgen Schmehr from the European Commission's DG XXII, a contribution on costs and benefits of training in Europe is included and was presented by Robert Lindley from the Institute for Employment Research (IER), University of Warwick/UK and a number of other contributions are included about private companies' training activities (Texas Instruments), methods and methodological approaches (Research Centre for Education and the Labour Market/Maastricht and Regional Chamber of Industry and Commerce/Rennes/France) and on regional employment/training observatories (e.g. Regional observatory on employment and training/ Nantes).

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